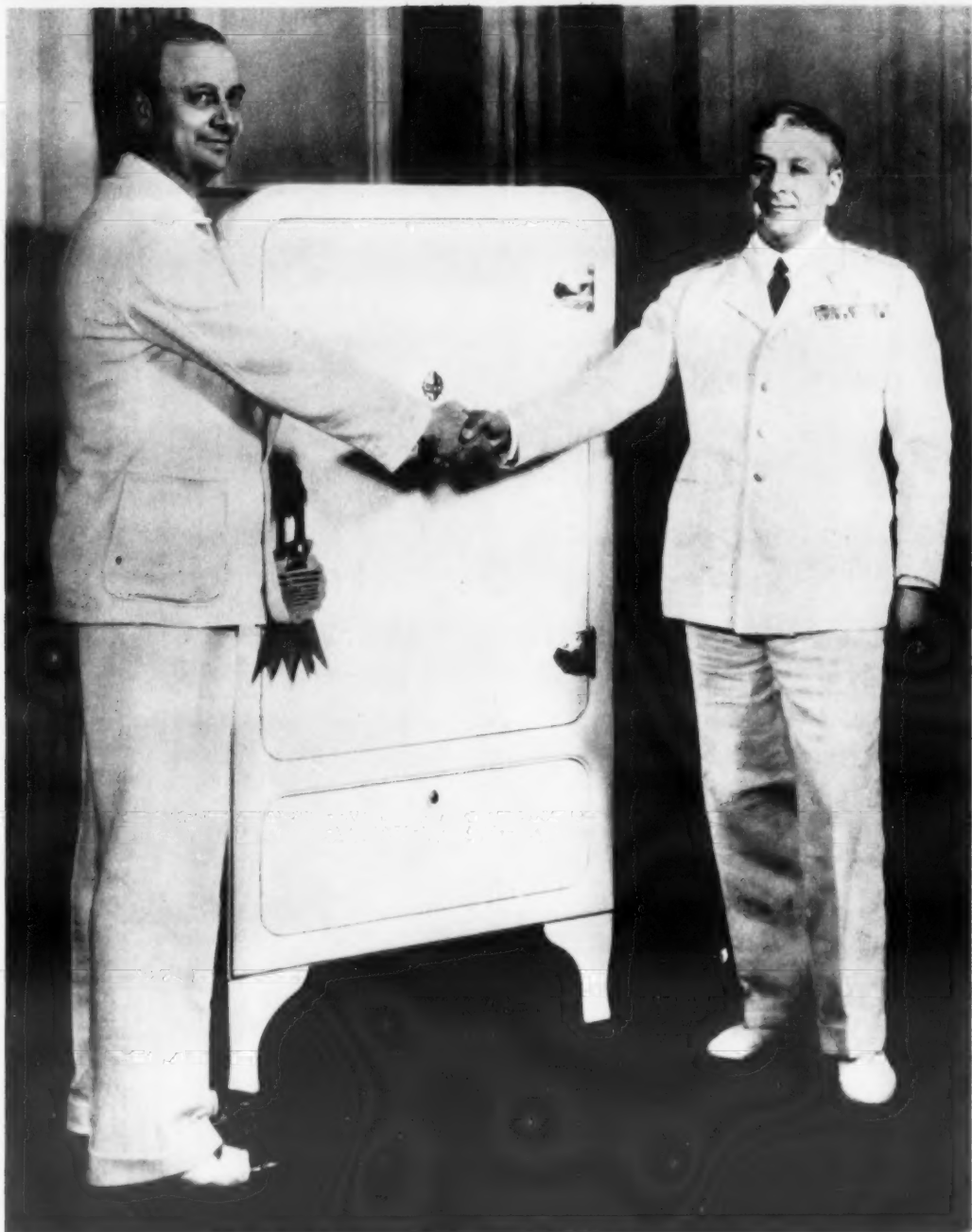


Ben Bernie (below) tries to feed Gladys Curtin, one of the models at the Fair Casino where Ben plays, to a dinosaur.

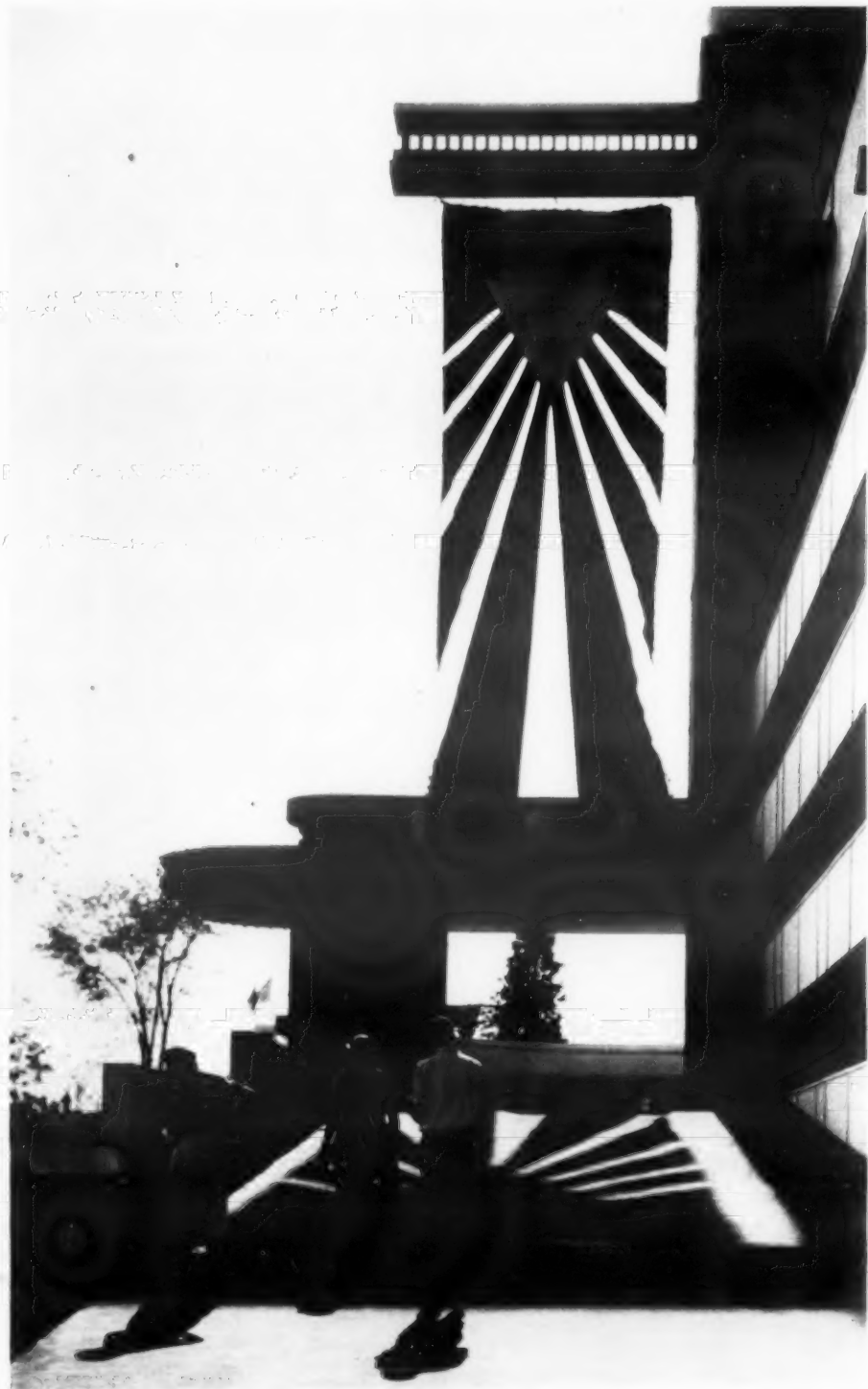


Most interesting feature of the Fair is its novel lighting effects. This scene is a Hall of Science court at night.



Earl Macke of Grunow Corp. presents a Grunow refrigerator to General Pellegrini, one of Balbo's trans-oceanic flyers. (Left.) This is one of four given to the Italian airmen.

Afternoon sun on this Hall of Science entrance (below) makes a picture of light and shadow, lines and cross-lines. The Fair is a kaleidoscope to appreciative eyes.



Ghosts of great scientists may be exploring the Hall of Science, as the above photograph would seem to indicate.



Jeanne Goodner, 17-year-old, is thrilling Fair visitors with her acrobatic dancing.

REFRIGERATION NEWS

ESTABLISHED 1926. MEMBER AUDIT BUREAU OF CIRCULATIONS. MEMBER ASSOCIATED BUSINESS PAPERS.

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DETROIT, MICHIGAN, AUGUST 16, 1933

Entered as second-class
matter Aug. 1, 1927IN TWO PARTS, PART ONE
TEN CENTS PER COPYNRA WILL HEAR
ALL RETAILERS
IN ONE SESSIONFavors Broad Code
For All Types
Of Stores

WASHINGTON, D. C.—Date of the public hearings on the proposed code of trade practices for retail establishments has been changed from Aug. 15 to 10 a. m. Tuesday, Aug. 22, according to an announcement made by the National Recovery Administration. The hearings will be held in the U. S. Chamber of Commerce building, at 1615 H St., N. W., here.

The announcement concerning the hearings was addressed to "the retail trade, excepting food and grocery distributors," indicating that the administration may favor the idea of applying this code to the remainder of the retail trade. The code was filed by the following associations: National Retail Furniture Association, National Retail Hardware Association, Mail Order Association of America, National Association of Retail Clothiers and Furnishers, National Retail Dry Goods Association, and the National Shoe Dealers Association.

An opportunity to be heard (either in person or by duly appointed representative either by appearance or by sending a written or telegraphic statement) at the Aug. 22 hearing will be given to persons or groups who can show a substantial interest as workers, employers, consumers or otherwise, in the effect of any provision of the proposed code.

Those wishing to be heard must comply with the following simple requirements:

(1) A written or telegraphic request for an opportunity to be heard must be filed before noon on Monday, Aug. 21. Room 4830 (Office of the Deputy Administrator in charge of hearing), Department of Commerce, Washington, D. C.

(2) Such request shall state the name of (a) any person seeking to testify in the hearing, and (b) the persons or groups whom he represents.

(3) Such request shall contain a statement setting forth without argument, a proposal: (1) for the elimination of a specific provision of the Code; or (2) a modification of a specific provision, in language proposed by the witness; or (3) a provision to be added to the Code, in language proposed by the witness.

(4) At the public hearings, all persons are regarded as witnesses, and shall present orally facts only and not argument. Written briefs or arguments may be filed, but oral presentations will be confined to factual statements only.

(5) In the discretion of the Deputy Administrator in charge of the adjourned hearing, persons who have not complied with the requirements of paragraph (1), above, may be permitted at any time prior to the close of the hearing to file written statements containing proposals for eliminations from, modifications of, or additions to the code supported by pertinent information or argument. Such written statements must be condensed as much as possible.

YORK ICE ANNOUNCES LINE
OF AIR-COOLED MACHINES

YORK, Pa.—Supplementing its line of water-cooled condensing units introduced a few months ago, the commercial division of the York Ice Machinery Corp. has just added three air-cooled Freon machines in 1-1/4, and 2-hp. sizes. The new machines are designed particularly to operate at evaporator temperatures up to 45° F., a suction temperature frequently required for air-conditioning work, York engineers state.

The new air-cooled units are in—
(Concluded on Page 8, Column 1)

EDWARD BARGER RESIGNS
FROM COPELAND

MT. CLEMENS, Mich. — Edward Barger, for some years production manager of Copeland Products, Inc., here, has just resigned from the company.

BLUE EAGLE NEWS

REFRIGERATION DIVISION OF
NEMA WILL DECIDE TRADE
RULES IN DETROIT, AUG. 30

Eighteen manufacturers of household electric refrigerators under chairmanship of G. M. Johnston draw up a Code of Fair Practice with teeth in it at meeting in Detroit last Thursday but postpone final action until another session to be held at the Book-Cadillac, Wednesday, Aug. 30 at 10 a. m. See report of meeting in column 5 on this page.

REFRIGERATION ACCESSORY
MANUFACTURERS TO MEET IN
DETROIT, THURSDAY AUG. 31

Manufacturers of electric refrigeration parts, supplies, and materials who formed tentative organization in Chicago last week under chairmanship of Walter Seeger will meet again at the Book-Cadillac in Detroit, Thursday, Aug. 31, at 10 a. m. to complete permanent set up as a division of Nema and adopt fair practice rules to supplement the broad Nema code.

FIN COIL MANUFACTURERS
PLAN TO JOIN NEMA GROUP

Manufacturers of fin coils and other extended surface products form association and elect J. H. Hatch, president. NRA code adopted at meeting in Cleveland yesterday, Aug. 15. Group will become a section of Refrigeration Accessories Division of Nema, according to present plans.

ELECTRICAL WHOLESALERS IN
BUFFALO TO DRAW UP CODE

National Electrical Wholesalers Association holds meeting at Statler hotel, Buffalo, Tuesday, Aug. 15, to discuss NRA code. Louis Ruthenburg, consultant of Nema Refrigeration Division attends to assist electric refrigeration distributors in harmonizing their rules with those being considered by manufacturers.

WESTINGHOUSE OPERATES
UNDER CODE PROVISIONS

EAST PITTSBURGH, Pa.—F. A. Merrick, president of the Westinghouse Electric & Mfg. Co., has issued the following statement regarding the company's participation in the national recovery movement:

"All works and offices of the Westinghouse Electric & Mfg. Co. and subsidiaries will, dating from Aug. 15, operate under the provisions of the National Recovery Act which at that date becomes effective for the electrical manufacturing industry as set out in the code of the National Electrical Manufacturers Association approved by President Roosevelt."

NEW RUSS BEER COOLER
BUILT TO CONTROL FOAM

CLEVELAND—Russ Soda Fountain Co. of this city is introducing a new line of instantaneous beer coolers this week which incorporate a new system of foam control. The new system, to be used in Russ novelty boxes and coil boxes, is designated to maintain a high pressure in the beer keg and to serve beer from the faucet at a controlled low pressure which gives a moderate amount of foam in a glass with one draw of the faucet.

Frigidaire, General Electric, and Kelvinator factory engineers have already approved the system for sale in connection with their commercial refrigerating machines.

Purpose of the high pressure maintained in the keg is to preserve the carbonic gas content of the beer. This pressure is reduced successively in the—
(Concluded on Page 8, Column 1)

FIN COIL MAKERS
ELECT OFFICERS
& ADOPT CODE

NEW YORK CITY—Manufacturers of fin coils for refrigeration met Aug. 8 and organized the Extended Surface Manufacturers Association. A constitution and by-laws were adopted and a tentative NRA code drawn up for submission through the proposed Association of Electric Refrigeration Accessory Manufacturers which is expected to become a division of Nema similar to that of the Refrigeration Division which includes the leading manufacturers of complete electric refrigeration systems.

The following officers were elected: J. W. Hatch, president; H. L. Reickelmann, treasurer; C. T. Bappler, secretary and Lester V. Larkin, member of executive committee.

A telegram to Walter Seeger, chairman of the Accessories group, signed by Messrs. Hatch and Larkin says: "Would like to enter Association of Refrigeration Accessory Manufacturers as a unit and go in under Nema Code."

At another meeting of the fin coil group scheduled to be held at the Hotel Statler, Cleveland, Tuesday, Aug. 15, final action will be taken on the code. All manufacturers are invited to attend.

(Editor's note: Notice regarding the above meeting was received shortly after last week's issue of the News had gone to press. According to a message from Mr. Hatch the fin coil group will plan to attend the meeting of the Accessory Manufacturers to be held in Detroit Aug. 31 to arrange for affiliation with Nema.)

BRIEFS

F. AUSTIN TEIGEN EXPOSED
BY MEDICAL ASSOCIATION

The Journal of the American Medical Association, official spokesman of the medical profession brands Minneapolis man's theory that electric refrigeration may cause cancer "false propaganda." (See reprint of the Journal's editorial on page 11.)

BIG CONCERNS TO PROMOTE
HOME-BUILDING MOVEMENT

General Electric, American Radiator, Fox Furnace, Standard Sanitary & Mfg. Co., and Curtis Companies join in program to build "Key Homes" in various parts of the country. G-E refrigerators are specified. (See story on page 4.)

REFRIGERATION COMPANIES
PLAN EARLY FALL DRIVES

Westinghouse "Master Builders" contest gets off to fast start, with several distributors over 100 per cent of quota (see story on page 2). Majestic distributors meeting in Chicago this week. General Electric distributors to matriculate in "University of Refrigeration" at Nela Park, Cleveland, Aug. 22 to 24, for Camp Refrigeration VII.

REFRIGERATION NEWS JOINS
NEW PUBLISHERS INSTITUTE
ORGANIZED UNDER NRA RULE

Electric Refrigeration News signs up for the Blue Eagle and adopts regulations established by the newly-formed Periodical Publishers Institute. Extra employees have been added to shop and office force. Beautiful stenographers will work less than ever while editors continue to rove and write day and night, Sundays and holidays included.

NEWS TO PUBLISH SPECIAL
'BLUE EAGLE ISSUE' SEPT. 6

Names of all manufacturers of refrigeration equipment, parts, supplies, and materials authorized to use the NRA Blue Eagle will be listed in that issue without charge. The Blue Eagle will be imprinted in all advertisements of such companies in that issue, in blue, without extra charge for color. Copies will be sent to government officers and others interested in promoting the NRA.

FINAL CLOSING DATE FOR
BEER COOLING DIRECTORY
POSTPONED UNTIL AUG. 31

Closing date for the new Beer Cooling Equipment Directory and Handbook postponed three weeks (that is until Aug. 31, 1933) in order to permit advertisers to include the NRA Blue Eagle in their displays.

COMMERCIAL SPECIFICATIONS
IN NEXT ISSUE OF THE NEWS

Complete specifications of all makers of commercial refrigerating machines will be published in the Aug. 23 issue of Electric Refrigeration News.

NEXT ROTOGRAVURE SECTION
COMING WITH SEPT. 6 ISSUE

Servel and Electrolux at "A Century of Progress" will be featured in next rotogravure supplement which will appear in the Sept. 6 issue of Electric Refrigeration News. The supplement to this week's issue features Norge at the World's Fair. By arrangement with the Norge Corp. every Norge dealer will receive a copy of this issue.

NEMA CODE IS SIGNED
BY FRIGIDAIRE CORP.

DAYTON—Frigidaire Corp.'s full cooperation with President Roosevelt's industrial recovery plans was announced last week when E. G. Biechler, president, stated publicly that the entire Frigidaire organization would operate under complete observance of the Nema code.

Mr. Biechler announced Frigidaire's adherence to the NIRA plan as follows: "Frigidaire has been all ready to—
(Concluded on Page 19, Column 4)

35-HOUR WEEK, 40-CENT
BASE, ADOPTED BY LARKIN

ATLANTA — In cooperation with President Roosevelt's national recovery movement, Larkin Refrigerating Corp. here has placed its factory employees on a 35-hour week, at a minimum wage of 40 cents per hour, according to E. E. Yancey, president.

This new working schedule makes necessary the addition of 20 per cent more employees in the company's plants. Office employees are now working on a 40-hours-per-week schedule, Mr. Yancey says.

SIX MORE MAKES
ASK ADMISSION
TO NEMA GROUP18 Manufacturers
Now Represented
In Division

By F. M. Cockrell

DETROIT—Executive representatives of the Refrigeration Division of National Electrical Manufacturers Association (Nema) found themselves in unanimous agreement on nearly all provisions of a proposed "Code of Fair Practice" when they met at the Book-Cadillac hotel Thursday, Aug. 10. Except for one or two regulations, which would require a radical change in the established sales policy of an important factor in the industry, the group was of one mind on a program designed to eliminate unfair competitive methods from the household refrigeration field.

Throughout the all-day session, the discussion of the proposed code was devoted to the details of wording—how to make the rules say what they meant, and mean what they said. The trend of thought was in the direction of drastic, rather than liberal, regulations. This attitude was shown especially when the question of the manufacturer's responsibility for his dealer organization was considered. It was agreed that the manufacturer must assume complete responsibility for the selling methods of his branch offices and other controlled outlets. Also, that he must use his best efforts to prevent unfair practices on the part of dealers and that his "best efforts" will not be fulfilled until he has refused to sell to a dealer who disregards reasonable warning.

Final decision regarding the code was postponed until Aug. 30 when another meeting of the group will be held at the Book-Cadillac in Detroit. Various distributor and dealer meetings already scheduled for this week and next prevented the setting of an earlier date. Executives expressed the hope that additional companies would be represented by membership in the association in time to take part in the final consideration of the code.

Six new members, or applicants, were reported at this meeting as follows:

Tricoid Refrigerator Co.
Stewart-Warner Corp.
Uniflow Mfg. Co.
Sunbeam Electric Mfg. Co.
Merchant & Evans Co.
Rudolph Wurlitzer Mfg. Co.

Other member companies of the Nema Refrigeration Division are as follows:

Frigidaire Corp.
General Electric Co.
Kelvinator Corp.
Servel Sales, Inc.
Universal Cooler Corp.
Westinghouse Electric & Mfg. Co.
Grigsby-Grunow Corp.
Gibson Electric Refrigerator Co.
Crosley Radio Corp.
Norge Corp.
Trupar Mfg. Co.
Copeland Products, Inc.

Attendance Nema Meeting, Book-Cadillac, Detroit, Aug. 10, 1933:

G. M. Johnston (chairman), Universal Cooler Corp., Detroit; Louis Ruthenburg (consultant), National Electrical Manufacturers Association, Detroit; Le Roi Williams, Grigsby-Grunow Corp. (Majestic), Chicago; Lewis M. Crosley, Crosley Radio Corp., Cincinnati; W. A. Carson, Sunbeam Electric Mfg. Co., Evansville, Ind.; George W. Mason and H. W. Burritt, Kelvinator Corp., Detroit; W. F. Armstrong, Frigidaire Corp., Dayton, Ohio; F. E. Sellman, Servel Sales, Inc., Evansville, Ind.; Charles J. Gibson, Gibson Electric Refrigerator Corp., Greenville, Mich.; Howard E. Blood, Norge Corp., Detroit; R. E. Imhoff and R. C. Cosgrove, Westinghouse Electric & Mfg. Co., Mansfield, Ohio; Chas. R. D'Olive, Stewart-Warner Corp., Chicago; C. A. Kuebler, Uniflow Mfg. Co., Erie, Pa.; Farny R. Wurlitzer, The Rudolph Wurlitzer Mfg. Co., North Tonawanda, N. Y.; F. M. Cockrell, Electric Refrigeration News, Detroit.

The Board of Governors of Nema will hold a meeting Aug. 25, at which time official action will be taken on various proposals resulting from NRA activity, including the plan to form a separate division for the Refrigeration Accessories Group.

AIR-COOLED MODELS ADDED TO YORK LINE

(Concluded from Page 1, Column 1)
tended for use in installations where the cost of water is prohibitive, where the disposal of water is a serious problem, where the water supply is never cold enough to do an effective job, and where the water is corrosive.

The air-cooled condenser is mounted in front of the compressor and motor. All component parts are mounted on a heavy cast semi-steel base with extended brackets integral with base, which supports the condenser assembly.

Use Two Fans

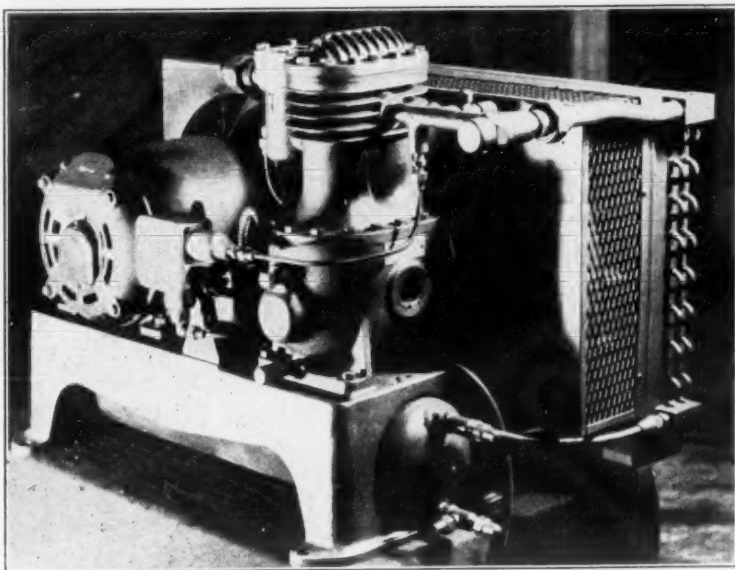
The new condensing units have two fans, one of which draws air through the condenser by means of a fan on the motor shaft. The second is a specially designed centrifugal suction fan mounted on the compressor fly-wheel, which also draws air through the condenser. Distribution of the air is accomplished by means of a sheet metal housing, which likewise protects the moving parts. The condenser is of the conventional copper fin-type design.

The unit is controlled by means of a suction pressure switch mounted directly on the unit, this switch also incorporating an overload safety device. The liquid receiver of the cylindrical type is mounted on the base. It is equipped with gas and liquid stop valves and a fusible safety element.

Switch Mounted on Unit

A magnetic relay switch is mounted directly on the unit and completely wired to the motor and controls, eliminating this work in the field. The suction gas strainer is mounted directly on the compressor. The unit runs at slow speeds but has a large fan capacity and ample condenser surface,

York's New Air-Cooled Model



The condenser is mounted in front of the compressor and motor, and employs two fans. Distribution of the air is accomplished by means of a sheet metal housing.

York engineers claim. The compressor assembly is the same as the established water-cooled units.

All of York's new commercial machines are automatic in operation. The flow of refrigerant is automatically controlled to meet the requirements of the evaporators.

Condensing water consumption in the water-cooled machines is controlled by a pressure actuated regulating valve.

Several precautions have been taken to protect the equipment against damage.

The suction gas, before coming

in contact with the machined internal surfaces of the compressor, passes through a strainer equipped with a mesh screen.

A high-pressure cut-out automatically stops the machine in case of water supply failure or other emergencies and permits resumption of normal operation when the cause of high pressure has been removed.

Special metal gaskets are used between accurately machined surfaces of assembled parts. Gasketed valve caps, in addition to standard valve stem packing, are used as a double precaution.

NRA OFFICE OUTLINES CODE-FORMING STEPS

WASHINGTON, D. C. — For the guidance of industry, the organization and procedure of the National Recovery Administration has been outlined by the executive officers of the Administration as follows:

"General Hugh S. Johnson, as Administrator, heads the organization of the National Recovery Administration. Under the terms of the National Industrial Recovery Act, a procedure has been established to guide the development of codes of fair competition by industry and labor.

"In order to make this provision effective, three Advisory Boards have been established, namely, the Industrial Advisory Board, the Labor Advisory Board, and the Consumers Advisory Board.

"The form and content of any code must in the first instance be developed by negotiations and conferences within an industry. In order to safeguard the interests of all involved, however, these negotiations are supervised in their final stages by the three Advisory groups—Labor Advisory and Industrial Advisory Boards appointees being available to consult with the respective industries, while Advisors of the Consumers Advisory Board safeguard the interests of the public.

"In order to explain the National Recovery Administration, one might compare it to a three cornered game, in which labor, industry, and the consumer are players. The National Recovery Administration is not involved in any attempt to direct any player. Rather, it occupies the position of a referee, insuring the establishment of proper rules of play, and seeing that no one player achieves an unfair advantage.

"The organization of the National Recovery Administration includes a number of Deputies, a number of Divisions which work on separate problems in order to advise with the Deputies, and the Labor, Industrial and Consumers Advisory Boards. At the present time there are thirteen Deputy Administrators, each with one or more assistants. The tremendous volume of work, and the immediate need for action require that this number be expanded considerably.

"Besides the Deputies, there are Divisions which specialize in legal problems, in code problems, in research and planning, and in maintaining contact with the public.

"The Legal Division checks all documents before they reach their final form to insure the legality of any agreements made by industry and labor under the guidance of the National Recovery Administration.

"All codes are examined in the Code Division, where a group of specialists analyzes each provision in order to determine as far as possible, whether on broad lines and principles, it insures fairness to all parties involved.

"The Research and Planning Division has really two functions; first to provide Deputy Administrators with authoritative and impartial information and statistics which will aid them in determining whether any particular provisions are fair or not; and second, to maintain a group of expert economists who are relating the codes of various industries to one another with the object of foreseeing as far as possible, the effect of each code on the industry itself, and insuring the proper relationship, and balance between various industries.

"In order to outline the procedure of having a code approved by the President of the United States, let us start with the requirements of the law. In the first place, application for a code of fair competition must be made by a trade or industrial association or group—not by an individual. Such an association or group must be open to all members of a given industry. In order to make such an application, a group or association must be truly representative of the trade or industry involved.

"Accordingly, the first step in having a code of fair competition approved by the President, must be the organization of a trade association or trade group. What is more, such a trade association or group must be representative of an industry or subdivision of an industry.

"If a trade group or association has been formed, or is in existence, that association or group may file with the National Recovery Administration a code of fair competition.

"In order to speed up the operation of the National Recovery Administration, a regular procedure has now been adopted, a procedure which has been evolved as a result of the extensive experience of the National Recovery Administration over the past six weeks.

"In order to start filing a code, a letter of personal inquiry should be addressed to the Control Division of the National Recovery Administration. There any applicant, association, or group will be supplied with proper forms which will supply to the National Recovery Administration certain information required in determining whether a code to be filed by that group can properly be considered.

"After the application form has been filled out and returned to the Control Division, the association or group can submit a tentative draft code to the Control Division of the National Recovery Administration.

"From the standpoint of the internal workings of the National Recovery Administration, the Control Division is a clearing house through which all contacts between any trade or industrial group or association may be made with the National Recovery Administration. All inquiries and correspondence should be directed to the Control Division up to the time that the Control Division has assigned the industry to a Deputy Administrator who will carry on further negotiations.

"Once a tentative draft code has been submitted to the Control Division, it is passed to the Code Division—known internally as the Code Analysis Division. There, a group of experts examine each provision of the code, and where that group can make helpful suggestions to the trade association, a memorandum is prepared, the contents of which are communicated to the trade association by the Deputy Administrator. If any necessary clauses or provisions are omitted from a tentative draft code, the Code Division will point out such omissions.

"After a code has passed through the Code Division and has either been approved by that Division as being in proper form for further steps or has been revised so that it is in proper form for further procedure, the Control Division will place the trade association or group into contact with the Deputy Administrator who will handle the code and under ordinary conditions will be expected to preside at the public hearing.

"In filing a tentative draft code, eight copies should be filed. One of these copies is held in the Control Division in a master file; one copy goes to the Code Division; three copies go, one to each one of the Advisory Boards—Labor, Industrial and Consumers. A copy is sent to the Deputy Administrator, and a copy is delivered to the Research and Planning Division.

"When a code is in form for a conference, it is generally advisable for a group or an association to select a small number of men, preferably less than four, to meet with representatives of the National Recovery Administration in Washington, in order to discuss the code.

"At this conference, the representatives of the industry will meet not only the Deputy Administrator, but also Advisors appointed by the three Advisory Boards, and possibly such other experts as may be required in the conference—for example, members of the Legal Division or of the Research and Planning Division or of the Code Division.

"As a result of this conference, a full understanding can be had by the committee representing an industry or trade of the objectives to be accomplished by the code. Perhaps some further revisions may seem desirable at this point.

"When finally a code has been whipped into shape for the public hearing, the association or trade group makes a written request for a public hearing on the suggested code. The National Recovery Administration sets a hearing date in Washington, giving notice to all members of the industry through complete publicity in every important trade publication and newspaper.

"Finally the hearing date arrives. All the provisions of the suggested code have been published. Any person, whether having a labor, industrial or consumer interest with regard to the code in question, may be heard. The only requirement is that persons who wish to be heard, notify the Deputy Administrator in charge prior to the hearing.

"On the date of the hearing, representatives of both employers and employees in the industry meet in Washington. The Deputy Administrator is Chairman. He will probably have with him members of the Labor, Industrial, and Consumers Advisory Boards, as well as members of other divisions of the National Recovery Administration, such as the Research and Planning Division, and the Legal Division.

"These hearings are not debates or trials. No argument is permitted. They are merely convenient means of determining the facts in any industry so that the Deputy Administrator may report to the President with recommendations on the code suggested by any given trade or industry group. It is important to realize that the public hearing is merely a fact-finding device—not a device in which oratory or persuasion can win advantage.

"After the Deputy has obtained complete knowledge of all the facts in the case, he prepares his report on the code. Before preparing this report he receives reports from the Legal Division and from the Research and Planning Division. The Deputy Administrator's report is reviewed by Gen. Johnson, and is finally passed to the President, who by his signature establishes the code provisions as the effective rules of the game in the particular industry."

GIBSON KEROUNIT



**NOW
EVERYONE
EVERYWHERE
CAN ENJOY
MODERN
REFRIGERATION**

**Absorption Type
Kerosene Burning**



**Simple, Safe
and Economical**

TREMENDOUS NEW MARKET

One in every three homes in the United States, according to figures issued by the Department of Commerce, is unwired, and therefore without electric refrigeration. Out of a total of 29,980,146 homes, 9,862,657 are in need of more modern methods of food preservation.

Gibson has the answer in the new modern KeroUnit. The Gibson KeroUnit refrigerates by the Absorption method, the most positive type of refrigeration known. It is simple, safe, and decidedly economical.

No moving parts. Light the burner and you have refrigeration—it's that simple.

There are 50 years of refrigeration experience back of the Gibson KeroUnit.

A Gibson franchise opens a much larger market for Dealers.

It costs you nothing to find out about it.

Three popular sizes 5, 6½, and 8 cu. ft. cabinets at unbelievably low prices.

GIBSON ELECTRIC REFRIGERATOR CORP.
Greenville — Michigan

Export Sales Dept.,
201 N. Wells St.,
Chicago, Illinois, U. S. A.

Cable Address
"Gibselco" Chicago,
Bentley Code.

Mail this coupon

Gibson Electric Refrigerator Corp.,
Greenville, Michigan.

Please send complete details, regarding
your dealer franchise.

Name

Address

City State

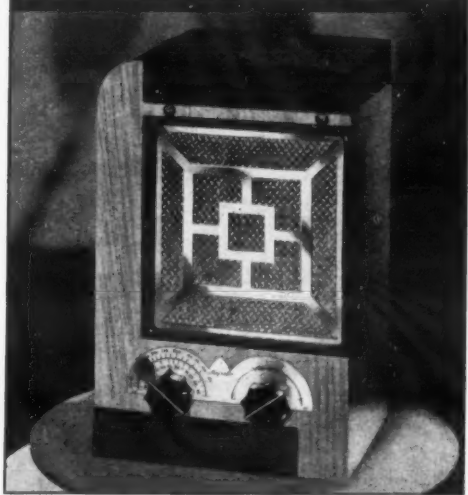
Majestic

says: Here are 1933's

ULTRA-SMART Ultra-small

Home Radios

DUO-MODERN MODEL 49

EITHER
MODEL

\$21⁵⁰

Slightly Higher on West Coast

This smart cabinet with its fine design, interesting two-tone finish (natural and "ebony" contrasting), and gleaming aluminum grille produces a most attractive effect. Dimensions: 11 inches high; 7 inches wide; 5 5/8 inches deep.

DUO-CHIEF MODEL 44



A simple, beautiful cabinet with rich brown-walnut finish on quarter-sliced red birch. The polished metal grille adds distinction. Dimensions: 11 inches high; 8 1/4 inches wide; 5 5/8 inches deep.

NOW you can see and hear for yourself what a truly fine radio a 4-tube superheterodyne can be—if Majestic builds it!

These *new* Majestic Style-Built models give 6-tube performance. Sensitivity and power output are exceptional, and tone quality is astonishing for so small a receiver. Important quality features are Majestic Spray-Shield tubes and full super-dynamic speaker.

A switch is provided so that the receiver may be operated on the regular broadcast band, or switched over to receive all Police Calls and cover the Amateur, Commercial, Marine and Aircraft channels up to 3500 kilocycles. Both models incorporate the same chassis.

We urge you to inspect these remarkable new models at your earliest opportunity.

GRIGSBY-GRUNOW CO. 5801 Dickens Ave., Chicago

Majestic Dealers are enjoying unusually good refrigeration business. Buying continues in good volume.

Be sure to maintain your stocks.

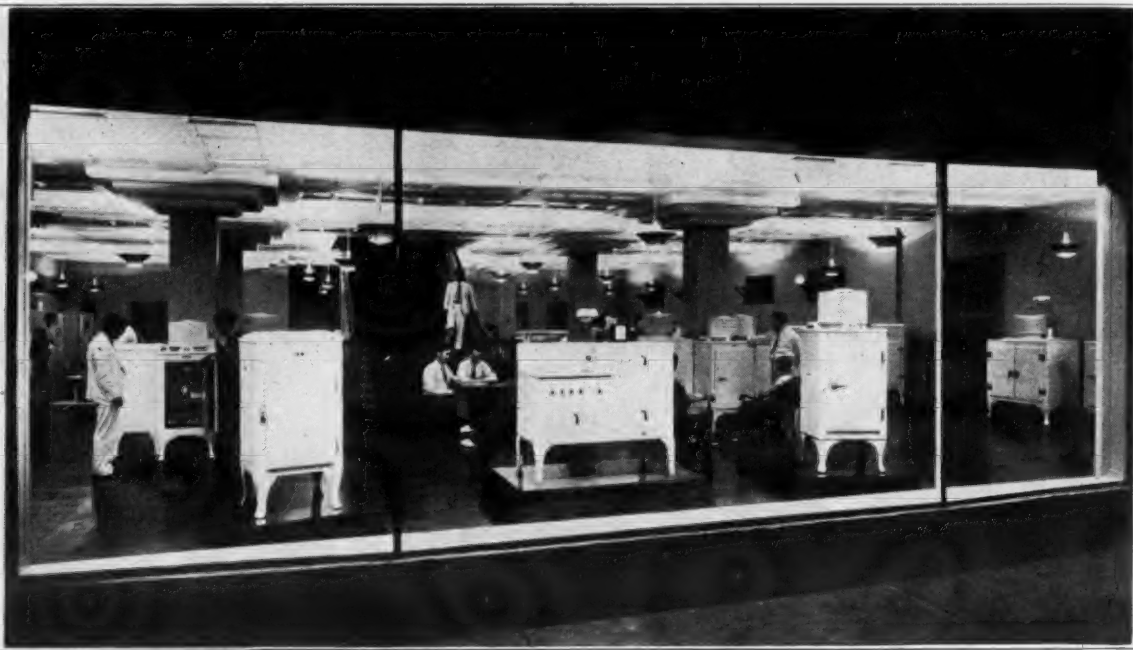
Majestic

R A D I O a n d R E F R I G E R A T I O N

A Home of Home Appliances



Here is the striking new General Electric distributorship of James & Co., Inc., St. Louis, as it looks when it's twilight time in Missouri.



Through this large display window—which is 40 ft. wide—may be seen the main sales floor of the James building. Area of the salesroom is 61x87 ft., there being more than 5,000 sq. ft. of space devoted to display.

LEONARD SALESMEN VIE FOR FREE CHICAGO TRIPS

SYRACUSE, N. Y.—Leonard refrigerator salesmen in this territory are working to win a free cruise, via the Great Lakes, to A Century of Progress at Chicago. The contest and cruise are sponsored by the Warner Distributing Corp. of Syracuse, Leonard distributor.

Lake steamer S. S. Seeandbee, has been chartered for the cruise, according to L. J. Warner, president of the company. The trip will start Sept. 5 and end Sept. 10.

The sales contest will close Aug. 25. All members of Leonard dealerships in the territory of the Warner Corp. are eligible. A total of 2,500 points must be made by each salesman to win the trip, points being based on retail prices of refrigerators sold.

NASHVILLE NORGEMEN HAVE WORLD'S FAIR CONTEST

NASHVILLE, Tenn.—As a number of other Norge distributorships, the Gambill Distributing Corp. here is sponsoring a sales contest among its dealers and salesmen, the winners to be given a free trip to A Century of Progress in September, according to Wheelless Gambill, Jr.

Curtis Key Homes Have G-E Kitchens

CLEVELAND—Under terms of an agreement between the General Electric Co.'s specialty appliance sales department and Curtis Companies, Inc., the G-E Kitchen Institute is designing the kitchens for the "Curtis Key Homes" being erected in various parts of the country by the Curtis organization, and G-E refrigerators are specified in the plans.

Curtis woodwork dealers are erecting these homes to give momentum to the small-home-building movement, and notify G-E dealers or distributors when one of the Key Homes is sold. It is then the task of a G-E salesman to sell the home buyer the refrigerator and other equipment for the kitchen.

Other companies cooperating in the Key Home program include the American Radiator Corp., Fox Furnace Co., and the Standard Sanitary & Mfg. Co.

LAD'S BUSINESS ACUMEN WORRIES SERVICE MEN

OSKA, Japan—Sales ability of a houseboy created a peculiar service problem for a Kelvinator user here recently, according to E. H. Wilcox, export manager for Kelvinator Corp.

The Japanese owner of the refrigerator was quite satisfied with its operation, but complained to the local Kelvinator office that it used too much current. Service men investigated, but confessed themselves baffled as to the reason for the unusually high current consumption.

Final visit of the Kelvinator men, however, brought the solution. The houseboy was seen slipping out the back door into an alley with a dish filled with ice cubes.

Questioning revealed he had been supplying a discriminating clientele with ice cubes at one cent per cube.

GEORGIA UTILITY HOLDS FALL SALES CAMPAIGN

ATLANTA—Having sold \$500,000 worth of electric refrigerators during May and June of this year, the appliance sales department of the Georgia Power Co. swung into an early autumn refrigeration campaign on Aug. 14, with a quota of \$200,000 in sales. The drive will close Sept. 16.

MAJESTIC DISTRIBUTOR HAS GOOD JULY BUSINESS

PITTSBURGH—Hamburg Brothers, distributor of Majestic products here, had a 300 per cent larger unit sales volume of refrigerators in July than in the same month of 1932, according to B. D. Levin of the distributor's sales promotion department. May and June of this year were 200 per cent ahead of the same month of 1932 in refrigerator sales.

New Kelvinator Dealer In San Diego

SAN DIEGO, Calif.—Fourth lumber company in this area to receive an electric refrigeration dealer franchise is Dixie Lumber Co., headed by W. S. Cowling, general manager. Kelvinator San Diego Co., distributor here, closed the contract.

RADIO ASSOCIATION REVIVED IN DETROIT

DETROIT—The Radio Wholesalers Association of Detroit, which has not been active for two years, was revived at a meeting of radio wholesalers held recently at the Detroit Leland hotel here.

The revival of the Association was brought about through the efforts of a number of prominent distributors, principally David W. Burke, president of the Radio Distributing Co., distributor for RCA Victor. Mr. Burke, who presided at the meeting, was elected chairman of the association, which will operate as its predecessor did, without officers other than the chairman.

Chief purposes of the revival of the organization were to formulate a course of action under NIRA and to cooperate with the Radio Manufacturers Association in its "Rebuild Radio Prosperity" campaign.

Principal speaker at the meeting was Earle Whitehorne, director of the Radio Manufacturers Association's prosperity campaign. Mr. Whitehorne declared that the public is about to engage in a new buying wave, and pointed out that the radio dealers who have survived the depression are now in a position to cash in on the improved business conditions.

Mr. Whitehorne outlined a plan of campaign, which calls for the improvement of the retail stores as the first step in preparation for an intensive sales drive for new business to be carried out throughout the month of September, leading up to Radio Progress Week, Oct. 2 to 7, during which the broadcasters of the country will put on special broadcasts.

Those present at the meeting authorized Chairman Burke to appoint a special committee of three men to handle the "Rebuild Radio Prosperity" campaign in Detroit and to work with the retailers in carrying out the suggestions of the RMA in this connection.

Hotpoint Ranges Have New Heating Unit

CHICAGO—Hotpoint range dealers were notified by the Edison General Electric Appliance Co. last week that an improved "Hi-Speed Calrod" electric heating unit, featuring Inconel, a chromium-nickel alloy, is being incorporated in the ranges. Another feature of the new unit is a glass seal, which the manufacturer claims is 200 times more expensive than ordinary glass.

Young Spring & Wire Has New Branch

DETROIT—L. A. Young Spring & Wire Corp. of this city has established a branch office at 1156 Monadnock Block, Chicago, to handle sales of its refrigerator shelves, other wire products, and mechanical springs in Illinois, Indiana, Wisconsin, and Minnesota, according to E. L. Russell, sales manager of the company's plants 2 and 3 in Detroit.

ANNAPOLIS HAS NEW JOB WITH N. Y. FRIGIDAIRE

NEW YORK CITY—C. M. Eakin, manager of the New York branch of Frigidaire Corp., has appointed M. Annapolis, Brooklyn commercial sales manager, commercial sales manager in charge of retail and wholesale operations for the entire New York district.

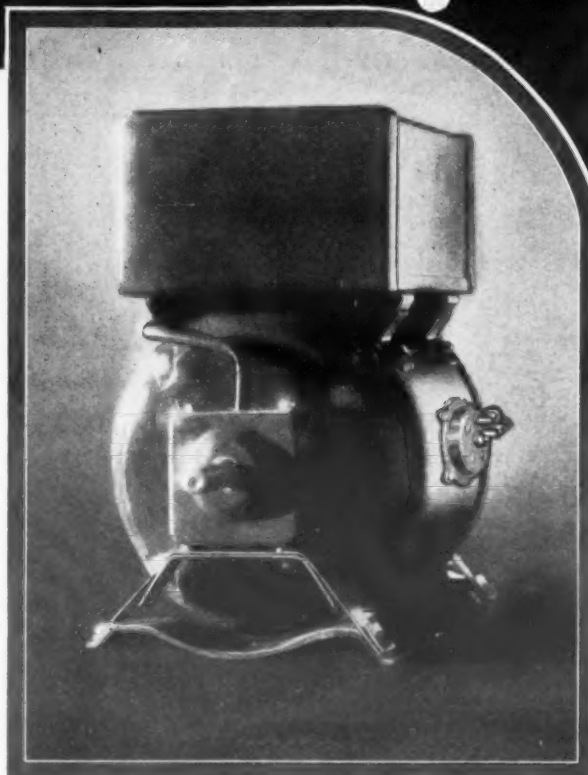
Self-protecting!

THE Westinghouse THERMOGUARD refrigerator motor protects itself against overheating and burn-out. No matter what severe starting or running conditions it is subjected to, it will not fail. The famous Westinghouse Built-in-Watchman thermostat automatically stops the motor before its temperature reaches the danger-point, and starts it again without manual resetting, when conditions are safe.

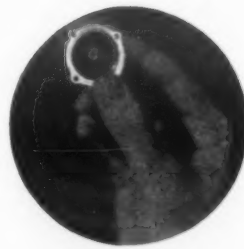
Dealers who handle refrigerators powered by Westinghouse Thermoguard motors, are insured against customer complaints and dissatisfaction that go with motor failure. Their service costs are cut to the minimum.

And in addition to self-protection, these motors have other important features that help sell refrigerators. They are unusually quiet in operation, thanks to a remarkable new resilient mounting that will not deteriorate. Simplicity of design and a special oiling system assure trouble-free operation. Power consumption is held at a minimum.

It will pay you to insist on burn-out-proof Thermoguard motors for the refrigerators you handle.



Stalled on the line under full voltage for THREE MONTHS this Thermoguard motor was unharmed. The Thermostat, shown at right, protected it. An ordinary motor would have been destroyed in a few seconds.



Westinghouse

Quality workmanship guarantees every Westinghouse product



SEND FOR INFORMATION

Westinghouse Electric & Manufacturing Company
Room 2-N—East Pittsburgh, Pa.

Gentlemen: Please send information on Thermoguard self-protecting motors.

Name

Position

Company T 79461

Address ERN 8-16-33

Bathed

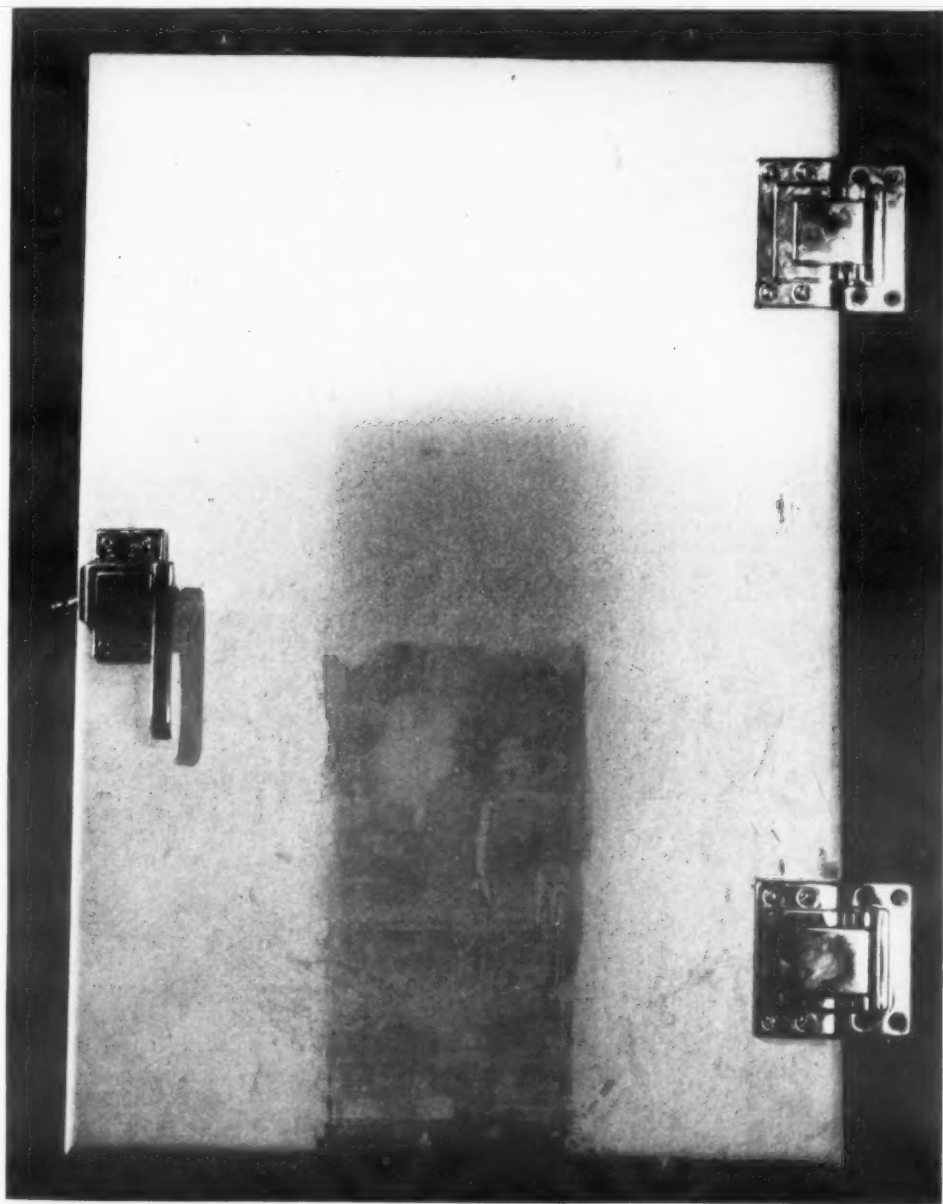
FOR

13 MONTHS . . .



in greases and soap and water

WHAT A TEST! YET IN RIGOROUS FLORIDA TRIAL DU PONT DULUX FINISH FOR REFRIGERATORS KEPT ITS WHITENESS . . . PREVENTED RUSTING . . . RESISTED CRACKING, CHIPPING, FLAKING



Grease test on refrigerator door in Florida—unretouched photograph

This 13 months' test is equivalent to approximately a 26 months' test in other sections of the country where climatic conditions are not so severe.

Diagram of door above and explanation of test

Sect. 1. Normal exposure. Wiped off with soap and water every week. Top half cleaned at end of test to reveal original white finish.

Sect. 2. Greased every morning. Washed with soap and water once a week. Top half cleaned thoroughly at end of test to reveal original white finish.

No. 1	No. 2	No. 3
No. 4	No. 5	No. 6

Sect. 3. Accorded exactly the same treatment as Section 1.

Sect. 4. Natural exposure to air and moisture in rigorous Florida climate. Dirt not cleaned off.

Sect. 5. Greased every morning. Not wiped off or cleaned at all.

Sect. 6. Accorded exactly the same treatment as Section 4.

How this latest product of du Pont laboratories helps you sell more refrigerators

A NEW PRODUCT has a tough time. Look what happened to DULUX, the new type finish for refrigerators.

Du Pont chemists developed DULUX after years of searching. Then they tortured and tested it in the laboratory. They proved that it had the hardness of an inorganic finish such as porcelain, but the toughness, flexibility and adhesion that can only be obtained with an organic finish. They showed that it was more beautiful than other finishes used on refrigerators.

Then DULUX was put on the door of an actual refrigerator which was operated on a porch down in Florida. Things were done to it for 13 months. And this is the story that will help you sell any refrigerator finished with du Pont DULUX.

FLORIDA GREASE TEST

Every morning an 8-inch wide section of the door from top to bottom (Sections 2 and 5 in the diagram lower left) was wiped with grease. Butter, bacon grease and a vegetable fat were used on alternate days. The grease was allowed to stand a week. Sections 1, 3, 4, and 6 were exposed normally to the air. Once a week Sections 1, 2, and 3 were washed off with soap and water. This went on for 13 months. During the entire time of the exposure Sections 4, 5, and 6 were not cleaned.

No rusting, cracking or peeling was evident at the end of the test. DULUX resisted the moisture. There was no softening of the finish. Cleaning of the upper part of the top three sections revealed the original, lustrous white beauty of the DULUX finish unharmed.

Another victory! Again DULUX showed its exceptional resistance to the corrosive action of air and water, and to the ill effects of household greases, as well as to oils, acids, alkalis and abrasives.

Sales ammunition, eh? Wait. Add this point for a complete picture of durability. Du Pont DULUX gives a hard finish. But it is also flexible. Sharp blows do not damage the finish. No more chipping, or cracking or flaking off if it is DULUX. Maybe women won't like that!

Greater durability plus a pure white beauty that keeps its original whiteness for a longer time—that is du Pont DULUX, the finish which leading manufacturers of electrical refrigerators are using today even on popularly priced models. DULUX is going to help retail dealers sell more refrigerators during the next year.

SEND FOR NEW BOOKLET ABOUT DULUX

There is a lot more to tell about this important du Pont development. But you will find that in a new booklet, "DULUX for Refrigerators," which contains a more complete story and more selling help for you. Let us send you a copy. Write E. I. du Pont de Nemours & Co., Inc., Finishes Division, Wilmington, Delaware.



DULUX

for refrigerators

BY GEORGE F. TAUBENECK ---

Ralph Leavenworth

Of all the men we've met in this business—and that includes some darned high-powered men and some swell fellows—we can recall none who impress us as being more human than RALPH LEAVENWORTH, general advertising manager of the Westinghouse Electric & Mfg. Co.

He's not just advertising manager of the refrigeration division, mind you, but of the whole darned works. And the "whole works" of Westinghouse is plenty big. Yet he is as common and unassuming and oldshoesy as your next-door neighbor back in that small town you came from y'ars and y'ars ago.

We met Mr. Leavenworth down at HENRY PICHLER'S Statler hotel, and drove him back to the office (with which, like all visitors, he was quite impressed).

He shook hands all around, recalled that EL HERRON was as pleasant and efficient a reporter as he had ever met (El covered a Leavenworth speech in Grand Rapids not long ago), and showered those famous Leavenworth smiles on everybody until the office force was his'n for keeps.

After which we drove around in the "Yellow Peril," and wound up at the Westinghouse branch here.

Refrigeration, he avers, has startled the entire Westinghouse organization this year. He is finding he must spend more and more time at Mansfield. Orders continue to pour in faster than refrigerators flow out, and All Seems Well Along the Potomac (or whatever the Mansfield counterpart of the Potomac is).

Mr. Leavenworth is a healthy, well-groomed young man in his thirties (or so we would guess), is an easy conversationalist, enjoys the amenities of life, drives and swears by La Salle, and knows a helluva lot more about the appliance business right now than many of us will ever learn in a lifetime.

Forbes & Sullivan on Air Conditioning

It's seldom that one picks up a newspaper these days without finding many things which would interest members of the refrigeration industry.

A few evenings ago we picked up a paper, for instance, and read that the motion picture, "42nd Street," led all other pictures in box office returns for the first six months of the year. The survey was made by the Motion Picture Herald, and was released through newspapers.

WALTER DAILY will be pleased to hear that. He picked "42nd Street" after seeing several previews on the Warner Bros. lot as the picture with which he wanted to tie up his General Electric Health Kitchen Cross-Continental train last March. It was a great stunt, and must have worked well for both companies.

In the same paper found ED SULLIVAN, New York columnist, relating tales about pent-houses with unsatisfactory ice-boxes and over-refrigerated restaurants. Want to read it? Okay:

"CHIEF apologists of New York are those of us who are catalogued and indexed as penthouse owners. The heat wave has ruined the penthouse proprietors. We visited a friend's penthouse the other night, overlooking Central Park. When we arrived, the host was apologetic.

"This is generally the windiest spot in New York," he said. 'Just before you got here, the wind blew a pillow right over the railing. But right now, the wind's died down.' He was correct. The curtains hung limp in the night air. The air was hot and stifling.

"We sat and sat, waiting vainly for the wind that allegedly had blown a pillow from the couch over the railing. Evidently that wind had been the last of the Mohicans. 'I can't understand it,' said the host. 'You see we have three exposures here, and if there is any breeze we get it, don't we Honey?' His wife lied politely.

"He suggested highballs. Parched from heat, we agreed. The host disappeared. We could hear him in the kitchen. Finally, he reappeared. 'I'm awfully sorry,' he said. 'The ice is all melted in the icebox and the ginger ale is hot.'

"To combat the heat, Broadway has become refrigerator-conscious. Theaters, restaurants, private offices, all are refrigerated. The only spots that lack cooling plants are telephone booths and linotype machines.

"The wave of refrigeration achieves unusual effects. The other night, at the Tavern, I ordered roast chicken. It required 15 minutes to prepare. To

Where Success or Failure is Bared



Progress of thousands of Westinghouse refrigerator salesmen is charted in headquarters of the Master Builders contest. Left to right: Helen Smith, Robert Lynch, S. H. Pittman, merchandise advertising manager (pointing), Clyde Moran, Henry Leatherman, and Clara Horning.

my amazement, the silverware on the table became frost-encrusted as I waited. The waiters, to keep themselves warm, wore mackinaws.

"When you step out into the street, after such an adventure in artificial refrigeration, you are almost prostrated by the heat. It feels as though a barber suddenly has stifled you with a hot towel."

Turning to B. C. FORBES' column, we found that he, too, felt like talking about air conditioning. We quote:

"I'm going to spend most of today shopping at —, because their store is so delightfully cool."

That remark by my wife yesterday prompted such thoughts as:

"Why aren't air-conditioning companies flooding the country with advertising? Why isn't every air-cooled store telling the public they can escape from the heat by shopping there? Air-cooled theaters should be advertised similarly. Certain progressive railroads now have cars kept at a comfortable temperature; they should be shouting this fact in advertising day by day."

"Motoring during the intense heat of New York and surrounding territory, we had to stay still for 15 minutes. The air was stifling. Said one of the party: 'How much more comfortable it would have been to come in an air-cooled railway car.'

"It has been a mystery to me for years why man has done so little to combat excessive heat when he has for centuries and centuries attached so much importance to combatting excessive cold. Peoples have even worshipped fire.

"Isn't it time that equal importance were attached to creating cold by those doomed to live in hot climates?"

"I can vision the day, not distant, when every well-to-do home, every office building, every store, every place of amusement, every factory, even every mine, will have apparatus for regulating the temperature.

"The heat has been so distressing in New York this week that it has been impossible to work normally. Certain concerns have actually dismissed their working forces at mid-day.

"Doubtless it will soon dawn upon employers that it will pay them to install air-conditioning facilities in all their work-places.

"As volume increases, the cost of installing temperature-regulating appliances will naturally decrease. The first mechanical refrigerators were much more costly than those of today. Now, few homes, even of moderate size, are not equipped with refrigeration by builders before offering them for sale. So will it be with air conditioning in relatively few years."

Charles Francis Coe

And then to top it all, we read that CHARLES FRANCIS COE ("Socker" to his friends), the Saturday Evening Post fiction writer and authority on gangsters, has opened his own advertising agency at 570 Lexington Ave., New York City.

A good friend of men like TED QUINN and REX COLE, the forceful Mr. Coe has already landed one of the

General Electric accounts. He will prepare and place a campaign to relate and tie together all G-E products. (Agency representation on other G-E campaigns remains unchanged).

"Socker" Coe has been everything from pugilist and after-dinner speaker to radio star and automobile distributor. He was also a territorial manager for Franklin automobiles, and from 1918 to 1921 directed his own sales promotion business in Boston.

In case you'd like to refresh your memory about Coe, the man, we'd suggest you turn to page 2 of the Feb. 22, 1933 issue of ELECTRIC REFRIGERATION NEWS, and read our little impressionistic sketch of Coe in action.

Frigidaire Hot Stove League Has an Early Session

From friends in the Frigidaire selling organization in Detroit, Milwaukee, Kansas City, and Davenport come the following excellent yarns. What's your story? And will you stick to it? We want it, if it's as good as these:

Standing in the showroom the other day Household Supervisor O. E. ROSS of the Seig Co., Davenport, Iowa, Frigidaire dealer, was astonished to see an elderly gentleman falter, tremble, and then sink slowly to the sidewalk.

He ran out, dragged the unconscious pedestrian into the store, practiced artificial resuscitation while a stenographer called for a doctor, gave the man cold water from a Frigidaire water cooler, and had revived the man just as his daughter, who was looking for him, came into the store.

After expressing her gratitude, the daughter said:

"Why this is a Frigidaire store."

Ross went into action. He gave a point by point demonstration, sales talk, and shoved the order blank forward. The grateful victim signed, the daughter smiled and the happy supervisor pocketed a check for a 12-cu. ft. super model—cash in full!

And then there is the fish story told by OTTO ENDRESS, Frigidaire district manager in Milwaukee.

A brand new Frigidaire salesman, L. E. BLAKE, was caught in a sudden downpour while patrolling his beat and ringing doorbells.

"Why don't you come in out of the rain," a husky voice ala MARY LIVINGSTON of JACK BENNY'S troupe asked.

Blake scuttled in off the street and said: "Excuse me, but I'm wet as a fish."

The housewife's eyes brightened at the mention of "fish."

She revealed she was a fish-fancier with fish in an aquarium. And Blake, equal to the occasion, confided that admiration for the finny tribe—in the aquarium, not in the pot—was one of his weaknesses.

By the time the rain had let up, Blake had told of his activity as a Frigidaire salesman, and was invited to return the following evening with his supervisor.

Territory Manager CRANDALL and Blake returned together, and Crandall, who also is a fish-fancying Frigidaireman, helped get the order.

The third good yarn of the week comes from PHIL (P.K.) ABRY, Frigidaire district manager at Kansas City.

Mrs. JOE POST, Kansas City housewife, is the proud owner of a new super model, according to Abry.

Burglars recently entered her home, thoroughly ransacked the house, and after gathering all the wearing apparel and valuables they could carry, robbed the contents of the new Frigidaire.

They made themselves at home by placing two comfortable chairs in front of the cabinet, leaving heel marks on the front and the side. After their Dutch lunch, they scratched matches for cigarettes on the sides and top, and snuffed several snipes by crunching them against the door.

Mrs. Post applied a damp cloth and heel marks, match scratch marks, and smudges came off in a jiffy.

Abry also tells about the wife of a prominent business man in Kansas City, who wanted a new 7-cu. ft. model Frigidaire. But she couldn't persuade her husband to break his buyer's strike, and unlock the latch on his wallet.

Finally, he began to notice that the butter he was served at breakfast and dinner was rancid, both in taste and in smell. He kicked. The housewife blamed the old fashioned icebox, and kept hammering, "Why don't you buy me a Frigidaire?"

He finally became disgusted with the butter and bought.

As the salesman left the house, the housewife confided to him that she had been serving a cheap butter substitute and had been letting it get good and soft before mealtime.

R. F. CALLAWAY, district manager at Detroit, reports the story of Salesman S. C. Nowak, who got a traffic ticket and was trying to talk a desk sergeant out of it.

It was in an outlying station of the Detroit Police Department. The temperature was up around 100, and the humidity was terrible.

Sergeant, patrolmen, and lieutenants were dragging around with their tongues hanging out—for water, not beer.

"I'd give a buck for a glass of cold water," one three-striper said.

Nowak pocketed the ticket and went to work.

He did some quick figuring, asked how many men reported to that station.

"Why you boys can have all the cold water you can drink for 70 cents per man," he said. "Or only three cents per month per man via the G.M.A.C. route. I'll sell you a Frigidaire water cooler."

The idea clicked as fast as the mythical and hoped-for rule that coppers can smoke on beats. The sergeant went to work and took up a collection. The cops now have cold water.

P.S.: Nowak's commission on the sale more than paid his fine.

We're an Eskimo

J. M. FERNALD, distinguished-looking chief executive of the Baker Ice Machine Co., has made us an Eskimo. It seems that "a bunch of the boys" out in Omaha are wont to gather in the New Indian Grill of the Hotel Fontenelle there, and cool off in the air conditioned atmosphere provided by Baker Ice Machine equipment.

So they have formed the Sundodger and Shade Chaser chapters of the Eskimo Club there, with due rites and ceremonies. Mr. Fernald presented our name for membership in the Shade Chaser chapter and, sight unseen, we were accepted. The membership card, a peachino, by the way, has arrived. Our thanks!

G-E Contracts Corp.

In response to a number of requests, both written and verbal, for information on the General Electric Contracts Corp., we have secured the following statement from D. D. Chapleau of the finance company.

"The General Electric Co. has organized its own finance company which is known as the General Electric Contracts Corp. Operations began Jan. 1, 1933, and five branches are now operating in principal cities.

"Present plans provide for the expansion of operations to cover the rest of the country during the remainder of this year and the early part of 1934.

"This move will affect those General Electric products which can be sold successfully on a time payment plan. The principal ones are refrigerators, oil burners, air-conditioning equipment, home laundry equipment, ranges, radios, and other home appliances.

"The corporation also constitutes a convenient and authoritative source of advice on such other financial and legal problems as may be encountered by dealers in instalment selling.

"Appliance and air-conditioning dealers can now offer their customers a complete General Electric service from the time the sale is made until the last instalment is paid.

"Main offices and the New York branch of the General Electric Contracts Corp. are located in the new General Electric building at 570 Lexington Ave., New York City.

"Offices are also doing business at 230 S. Clark St., Chicago; 1405 Locust St., Philadelphia; 2600 Euclid Ave., Cleveland; and at 1 River Road, Schenectady. Through these offices business is taken care of in the 14 northeastern states, in which is located more than half of the country's population."

Poet's Corner

From Billy Roger, down Clarksburg, W. Va., way, comes this labor of love:

The Kelvinator is the only thing,
And of its praises you hear me sing.
It alone has Full Automatic Control,
From cold to cold and colder than cold.

Besides the Kelvinator there is none,
That has four refrigerators all in one.

When you are out to a show,
You don't have to touch it, no.
You know there is no dials to set,
Nothing to remember, nothing to forget.

The feeling of evenings is so nice,
When you don't have to go after ice.
Why just on these trips alone,
You soon save enough to pay on a home.

You have more time to make amends,
To stay at home or go play bridge.
Adam never saw anything half so fine,
It defrosts and freezes at the same time.

It also has a Kelvin Crisper too,
Which makes vegetables better than new.

This sure is a super invention we've got,
Freezes ice so quick it still feels hot.
With all these improvements we know full well,
It will save many weary souls from hell.

To save your health, worry, and wealth,
Here's how, come buy a Kelvinator now!

Down, But Not Out



This G-E Monitor Top was picked out of the debris of a house demolished by a tornado, plugged into a light socket, and froze ice cubes, says E. S. Richardson of Electric Household Appliances, Inc., Dallas, Tex.

LEGALITY OF UTILITY CODE IS QUESTIONED

WASHINGTON, D. C.—A code stipulating certain hours of labor and rates of wages for employees of electric light and power companies has been submitted to Administrator Hugh S. Johnson by The Edison Electric Institute.

It is estimated that this code, together with that of the American Gas Association, would add 50,000 employees to the 350,000 persons now employed by the power and gas industries in the United States.

A 48-hour week will obtain in this industry for load dispensers, emergency maintenance and repair workers, crews and helpers, station and substation operators and their attendants. Other employees, except those in towns of less than 2,500 population, will work 40 hours a week.

Minimum wages vary from \$14 a week in cities of 2,500 to 250,000 population, to \$15 per week in cities over 500,000. Hourly workers have been placed on a minimum of 40 cents an hour, except in cases where the employee was receiving a lower rate than this on July 15, 1929. Rates for the latter are to be 30 cents an hour.

A number of public utility companies have objected to the formulation of codes covering the public utility industry on one of the two following grounds: 1) that NIRA conflicts with state laws regulating public utilities; 2) because of the laws governing rates the utilities might not be able to operate successfully under NIRA.

Two utility companies, Hartford Electric Light Co. (including Connecticut Power Co. and Stamford Gas & Electric Co.) and Consolidated Gas, Electric Light & Power Co. of Baltimore, have indicated their refusal to sign the code and offered their corporate resignations from the Edison Electric Institute.

Mayland H. Morse, chairman of the New Hampshire Public Service Commission, has written to Gen. Johnson that his commission feels that the utilities should be considered in a different class from business where there is no public control of prices.

"This Commission," Mr. Morse wrote, "is always concerned on behalf of the consumers when anything transpires which may increase the operating expenses of a public utility. If New Hampshire utilities should add materially to their personnel and thereby raise the cost of doing business, the consumers in many instances will be required to pay higher rates."

"As we see it, there is not the same public need for codes by utilities where their service and rates are subject to strict regulation, as they are here, as there is in other types of industry. The consumers of products of a utility look to us to protect them against unreasonable rates."

"Consideration of them makes us feel that utilities should be considered in a different class from those businesses where there is no control of the prices charged save what the traffic will bear."

Herbert A. Wagner, president of the Consolidated Gas, Electric Light & Power Co. of Maryland declared that his company objected to the Edison Electric Institute acting as a trade association instead of serving merely in an advisory capacity. It would be illogical, officers of the company felt, for a noncompetitive concern to sign a code designed for the regulation of wages and sale prices for competitive industries.

The administration, however, announced on Aug. 10 that public utilities will be expected to operate under a code even though they are subject to State regulation.

FREE INSURANCE OFFERED FOR MAJESTIC AUTO RADIO

CHICAGO — Grigsby-Grunow Co. is now offering free of charge, with every model 66 automobile radio, an insurance certificate protecting the owner against loss or damage by fire, theft, lightning, windstorm, cyclone, tornado and explosion of the entire radio while in the owner's automobile, for one year from date of installation.

The insurance is issued by The Phoenix Insurance Co. of Hartford, Conn.

This insurance feature in connection with the sale of the "Twin Six" Majestic auto radio is being promoted by broadsides, folders and dealer newspaper advertisements.

ORDERS 407 NORGES FOR SOUTH AFRICA

DETROIT—Herman Polliack, managing director of H. Polliack & Co., Ltd., Norge distributor for the Union of South Africa, visited the Norge factory here recently to place orders for 407 refrigerators, eight Economaid washers, and two beer coolers, according to C. L. Fossati, Norge export manager.

Hammond Tells How to Secure 'Blue Eagle'

WASHINGTON, D. C.—Steps that must be taken by employers who wish to receive the "Blue Eagle" signifying that they have signed the President's "blanket code" were recently set forth by Gen. Thomas S. Hammond, executive director of the President's Reemployment Program.

General Hammond's statement is as follows:

To all employers who are not working under codes approved by the President and who ask: "How do I obtain the Blue Eagle?" the answer is, there are three methods which may be pursued.

1. Sign the President's Re-employment Agreement as is—without change or modification. Mail it to the district office of the Department of Commerce. Put its provisions into operation. Sign the Certificate of Compliance. Hand it to your local post master, who will post your name on the Honor Roll and hand you your Blue Eagle.

2. If your line of business has submitted a code and the NRA has temporarily approved hours and wages to be in effect until the code itself is approved by the President, do this:

Sign the President's Reemployment Agreement. Mail it to the district office of the Department of Commerce. Comply with its provisions as far as possible. Now, if a specific code has been submitted by your industry and its wage and hour provisions accepted by a NRA Deputy Administrator, sign the Certificate of Compliance with this endorsement: "To the extent of NRA consent as announced, we have complied with the President's Agreement by conforming with the substituted provisions of the code submitted for the (blank) trade or industry." Hand this to your local post master, who will post your name on the Honor Roll and hand you the NRA Blue Eagle.

3. If neither 1 nor 2 applies and you feel you have to file a petition for relief, do this:

Sign the President's Reemployment Agreement, mail it to the District Office of the Department of Commerce. If you find you cannot comply with most of its provisions, then prepare a petition to the NRA asking for a stay or postponement of those provisions which would produce an "unavoidable hardship." Submit this petition to a trade association of your industry, or, if none, to your local Chamber of Commerce, or such other organization as can properly vouch for the facts. If officially accepted by one of the above, add the following to the face of your certificate:

"Except for those interim provisions regarding wages and hours which have been approved by the (blank) association or organization."

Then the post master will authorize you to use the NRA Blue Eagle. This last procedure may take some time and is, of course, subject to reversal when your petition is reviewed by the NRA.

POLICE LOSE THEIR HATS IN LEONARD RADIO STUNT

DES MOINES — Excited persons bearing nightshirts, horseshoes, firemen's and policemen's headgear and other odds and ends thronged the studios of radio station KSO on a recent Friday night as the climax of a local Leonard electric refrigerator radio advertising campaign.

The radio program was in the form of a treasure hunt, and at its close, station KSO announced that a similar event would be held each week thereafter, until further notice.

Sponsor of the hunt was the A. A. Schneiderhahn Co., Des Moines distributor of Leonard electric refrigerators. There were 13 Leonard announcements during the evening, and six announcements each asking listeners to get a certain object, according to A. A. Schneiderhahn, president of the company. It was broadcast that after all six objects had been announced, the person bringing all of them to the studio first would receive a prize of \$25 and the five runners-up, \$5 each.

The contestants were required to bring in the following articles:

A man's nightshirt, a hollyhock in bloom, a rock or stone weighing exactly one pound, a horseshoe, a hidden Leonard advertisement in a Des Moines newspaper and an official cap of a fireman, policeman, or motorman.

At the close of the hunt the Des Moines chief of police was obliged to go on the air and ask the hat-snatchers to return the hats as they were an important part of the city's official equipment.

NEW MAJESTIC DISTRIBUTOR FOR MINNEAPOLIS NAMED

MINNEAPOLIS—C. F. Hayer Co. of this city has been appointed Majestic distributor in this area, according to Harry Alter, assistant general sales manager for Grigsby-Grunow Co.

Tutors for the 'Master Builders'



Publicity and education for the Westinghouse campaign is concocted here. Left to right: Paul Endriss, J. R. Clemens, R. O. Richards, Paul Wilmore.

Philadelphia's Show Will Open Oct. 2

PHILADELPHIA — Featuring new products representative of the electrical and radio industries, Philadelphia's Sixth Annual Electric and Radio show will be held at Municipal Convention hall here the week of Oct. 2-7, under

the sponsorship of the Electrical Association of Philadelphia.

Coincident with the show the first all-electrical conference in the Philadelphia area is to be conducted by the association. According to George R. Conover, managing director, the conference will deal with problems confronting the industry in the post-depression period.

WESTINGHOUSE LEAD HELD BY O. H. SMITH

MANSFIELD, Ohio—Honor of the first completed tower in the Westinghouse Master Builders sales contest, now in its fourth week, goes to O. H. Smith, salesman in the organization of Westinghouse Electric & Supply Co., Los Angeles, according to a telegraphed report received at Mansfield headquarters from C. D. Pence, contest manager for the distributorship.

Eleven sales in the first week of the contest brought Mr. Smith's total credits to 737 and enabled him to put the finishing touches on his tower by July 31.

In the distributors' contest, Tafel Refrigeration Co. of Cincinnati is leading with 87.7 per cent of quota, closely trailed by Wetmore-Savage Electric Supply Co., Boston, with 80.7 per cent.

Other high-ranking distributors, in order, are American Sales Co., Columbus; Danforth Refrigeration Co., Cleveland; Iron City Electric Co., Pittsburgh; J. W. Greene Co., Toledo; Westinghouse Electric & Supply Co., Los Angeles; Hawaiian Electric Co., Honolulu, T. H.; Westinghouse Electric & Supply Co., Oklahoma City; Edgar Morris Sales Co., Washington, D. C.

W. S. BLUE NAMED OFFICER OF WHOLESALERS' GROUP

KANSAS CITY, Mo.—Walter S. Blue, vice president and treasurer of Columbian Electric Co., Kansas City Westinghouse distributor, has been appointed Commissioner of the National Electric Wholesalers Association for District 34, which comprises the state of Kansas and western Missouri.

WE TOLD
SEVEN MILLION
FAMILIES

National magazines of huge circulation—Saturday Evening Post, Collier's and Literary Digest—carried this midsummer money saving message.

COMING SEPT. 1ST
HIGHER PRICES
MADE NECESSARY BY INCREASED MATERIAL COSTS

NOW \$99.50
SEPT. 1ST \$112.00

SAVE by buying
a Leonard Electric NOW

LEONARD ELECTRIC REFRIGERATOR

NRA
WE DO OUR PART

A refrigeration line second to none! A midsummer advertising campaign reaching millions of homes with a pocketbook appeal! A selling plan that "clicks" in ordinarily dull months!

This is the combination with which Leonard distributors and dealers are beating that old refrigeration jinx—the summer slump—and making money in the "off season."

The past twelve months have

been a succession of new sales records for Leonard. June set an all-time high. July shipments were nearly six times those of July, 1932.

Now is the time to join an organization that is "going places." Write or wire the factory about the franchise that offers you so many exclusive sales advantages—a 52-year reputation for quality—an alert and successful merchandising policy.

LEONARD REFRIGERATOR COMPANY
14256 Plymouth Road, Detroit

"Our Biggest Summer"

Say

LEONARD DEALERS



BEER COOLING

Pressures Regulated to Control Foam In New Russ Instant Cooler

(Concluded from Page 1, Column 2)

connecting tubing, and inside coils of the "Beer Control Instant Cooler" as the cooling unit is to be known, so that beer is served at the draft arms at a pressure which produces the desired amount of foam.

The cooling unit (manufactured by Liquid Cooler Corp.) consists of a tank containing the liquid refrigerant, and beer coils immersed in the refrigerant. This is a specially built unit, made according to Russ specifications.

As explained by D. C. Seitz, chief engineer of the Russ company, the solubility of the natural CO₂ gas in beer is a known amount under normal fermentation.

Pressure-Temperature Relationship

"To keep this amount of gas dissolved in the beer, definite pressures and temperatures must always be maintained, or else the gas will come out of solution and produce what the average layman knows as stale or flat beer—beer which has lost a great part of its dissolved CO₂," he states.

"Foam is simply liberated carbonic gas," Mr. Seitz declares. "It is the escaping gas protected by a thin film which will disappear only as the bubbles are agitated or if they are too big, in which case a slight jar will burst them."

Hence, he reasons, the control of foam is a problem of regulating the liberation of CO₂ gas at the draft arm. He cites three reasons why foam occurs (all three reasons being controllable):

1. Reducing the solubility of carbonic gas in the beer by reducing the pressure to liberate gas. This he considers most important.

2. Reducing the solubility of carbonic gas by raising the temperature, but not the pressure, thereby driving off gas.

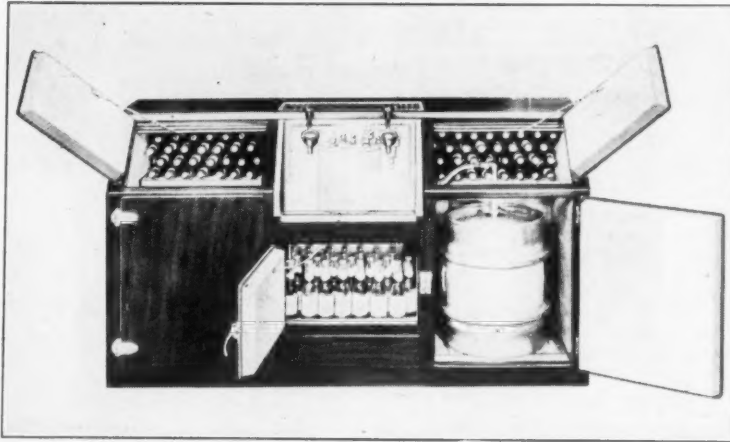
Gas Released by Agitation

3. Gas can be "knocked out" of beer by mechanical agitation. A simple demonstration of this is stirring a glass of beer with a lead pencil. Small gas bubbles appear and rise to the top. The same action takes place in a beer line where kinks in the line or tubing knock off some of the dissolved gas as it passes through them.

Beer at high temperatures must be kept under higher pressures in order to preserve its natural carbonic gas content, he says. As the temperature is lowered (as through a cooling coil), the pressure can be reduced and still the carbonic gas content maintained.

Tests made in the Russ laboratories show the following pressures necessary to keep the dissolved CO₂ in the

Foam-Controlling Novelty Box



The new Russ cooler appears in phantom behind the draft-arms.

beer at various temperatures:

Beer Temperature	Required Pressure
40° F.	13 lbs.
45° F.	16½ lbs.
50° F.	20 lbs.
55° F.	24 lbs.
60° F.	27 lbs.
65° F.	31 lbs.

If the beer keg is in the basement at 60° F., and pressure on the keg is less than 27 lbs., some of the dissolved gas will be liberated, Mr. Seitz points out, and beer served will taste "flatter."

"The cooling process after the beer leaves the keg is just as important as maintenance of the necessary pressure because the solubility of the gas in the beer depends not only on its pressure, but also on its temperature," he shows.

In the Russ system, as the pressure is reduced in the cooling coils by fric-

tion of the beer passing through the coils, the beer is also cooled at the same time—rapidly enough so that the solubility of gas in the beer is not reduced, Mr. Seitz explains. Referring to the table above, he shows that as beer is cooled from 60 to 40° F., its pressure may be reduced from 27 to 13 lbs., for the solubility is the same at each point.

The new cooler performs two functions, he declares; it cools the beer, and reduces the pressure on it as the beer is cooled and flows through the pipe in just the right amount to keep the CO₂ dissolved in the beer.

From 15 to 20 gals. of beer can be cooled per hour with the new cooling unit, depending on the temperature of the beer. Also, one, two, or three kinds of beer can be cooled at once with a cooler.

To permit installers of the coolers to calculate the proper size of tubing and required pressure on a keg for any given location with respect to the draft arms, Mr. Seitz has evolved the following two general rules:

Installation Instructions

Rule 1. Keg on same level or elevation as beer control cooler.

a. When not more than 20 ft. of pipe are necessary to connect the keg to the ice box coupling, ¾-in. block tin beer runs may be used. The pressure should be set at 30 lbs. on the keg.

b. When more than 20 ft. of pipe are necessary to connect the keg to the ice box coupling, ½-in. block tin beer runs must be used. The pressure should again be set at 30 lbs. on the keg.

The purpose of increasing the size of the beer runs is to eliminate the effect of friction in the pipe.

Rule 2. Keg on a lower level or elevation than beer control cooler.

a. When not more than 20 ft. of pipe are necessary to connect the keg to the ice box coupling, ¾-in. block tin beer runs may be used. The pressure should be set at 30 lbs., plus two-fifths of the vertical distance between the ice box coupling or connection to the control cooler and the top of the keg.

b. When more than 20 ft. of pipe are necessary to connect the keg to the ice box coupling, ½-in. block tin beer runs must be used. The pressure should be set at 30 lbs., plus two-fifths of the vertical distance between the ice box coupling or connection to the control cooler and the top of the keg.

The extra pressure over and above 30 lbs. required for Rule 2 is that necessary to lift the beer from the keg to the ice box coupling, he explains. In order to illustrate application of the rules, he gives an example of each:

Let us assume:

1. That a keg is installed in a back-bar refrigerator and the beer is being drawn from a coil box on the same floor, eight feet away. Rule 1-a applies, ¾-in. beer runs may be used, and 30 lbs. pressure should be placed on the keg.

2. That the same keg in Example 1 is moved 40 ft. from the coil box on the same floor. Rule 1-b applies, ½-in. beer runs must be used and 30 lbs. pressure placed on the keg.

3. That the keg of beer is located in the basement and directly above it is located the coil box. The vertical distance between the top of the keg and the ice box coupling is 15 ft., and the total amount of line used to connect the keg to the ice box coupling is 19 ft. Here Rule 2-a applies, ¾-in. beer runs may be used and the pres-

sure on the keg should be 30 lbs., plus two-fifths of 15 ft., or 36 lbs. pressure.

4. That the same keg of beer is moved to the lower basement, 22 ft. under the ice box coupling and 40 ft. away, off in a corner. The total amount of cellar run is 62 ft. Rule 2-b applies, ½-in. beer runs must be used and the pressure on the keg is 30 lbs., plus two-fifths of 22 ft., or approximately 39 lbs.

Due to the fact that there is some variation of CO₂ content in various kinds of beer, it is impossible to state definitely that the above pressures will always be exactly correct, according to Mr. Seitz. However, they are the most accurate approximation that can be made for the initial starting of a new installation, he claims, errors being less than 10%.

Adjusting After Installation

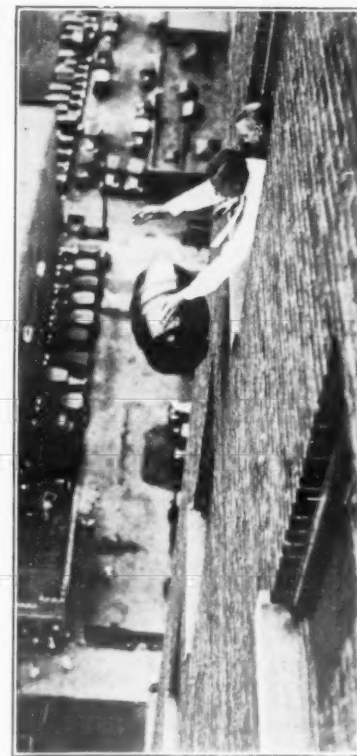
He suggests drawing a few glasses of beer when the equipment has been put in, and if the collar is too great, the pressure should be reduced (but never below 30 lbs.) two or three pounds. Likewise, if the collar is too small, two or three lbs. of additional pressure at the keg will correct the condition.

With respect to CO₂ versus air pressure to produce the desired pressure in the kegs, Mr. Seitz recommends the use of air pressure on wooden kegs, and either air or gas on metal kegs because CO₂ is an expensive method when a keg leaks—as wooden kegs might under the high pressures employed in the Russ system.

He believes the beneficial effects from using CO₂ gas for pressure are negligible, averring that to mix the CO₂ intimately with the beer in order to increase carbonation would require a spray or agitator similar to a soda fountain carbonator.

"We all know that to carbonate water, we cannot expect any results if we connect a CO₂ drum to a tank of water and let them stand. We must intimately mix the two to obtain carbonation. The same reasoning applies to beer," he declares. "When the air pressure is high enough to keep the dissolved gas in the beer, it is impossible to have the kegs leak anything but air."

Beer Keg Test

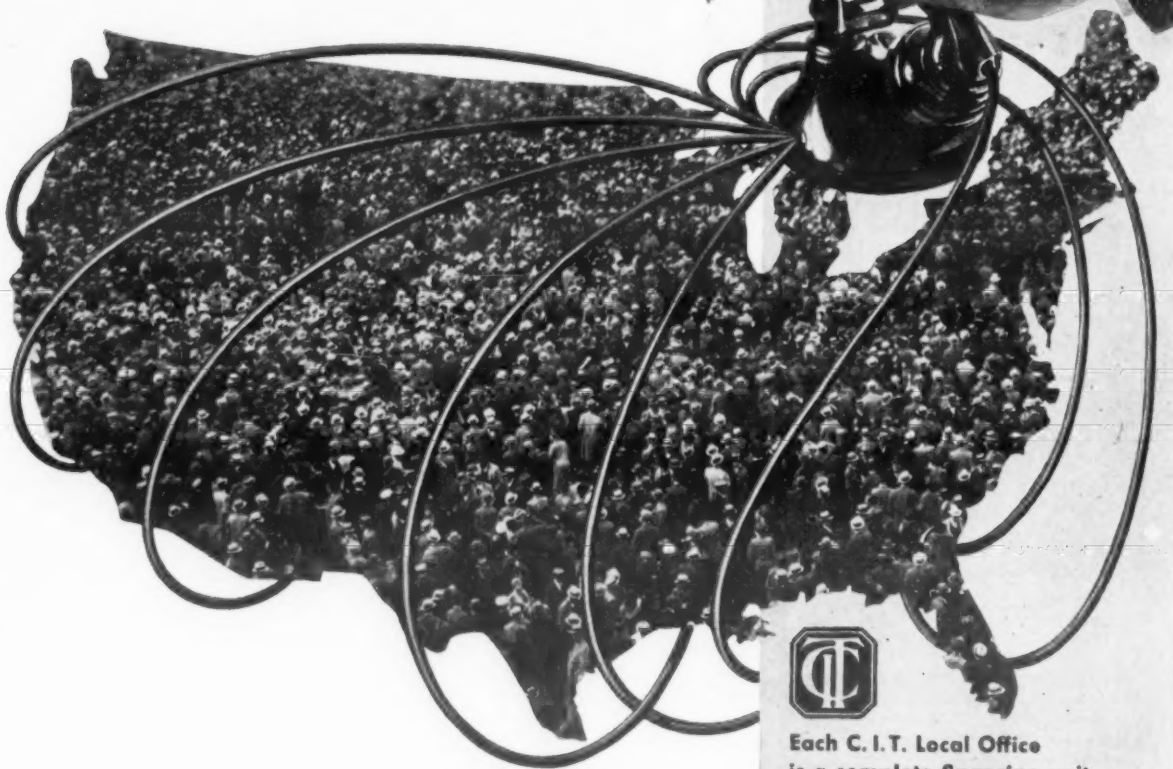


Drops Steel Beer Kegs From 18th Floor

DETROIT—What happens to a steel beer barrel traveling 120 miles an hour when it hits an immovable object? To find the answer to this question, Boone Gross, sales manager of the beer barrel division of the Motor Wheel Corp. of Lansing, dropped two of the barrels manufactured by his company from the eighteenth floor of the Fort Shelby Hotel here.

The barrels, filled with water, fell on hard gravel with such a terrific impact that the outside shells were noticeably dented, but upon examination neither barrel was found to be leaking any fluid.

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Each C. I. T. Local Office is a complete financing unit

Every form of cooperation included in C. I. T.'s Refrigerator Financing Service is extended by our Local Office in your territory.

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This close-range service prevents mistakes and misunderstandings. It does away with "red-tape". It makes a difference in credits and collections . . . producing results bound to show up on the profit side of your ledger.

C. I. T. Plans cover approved types of mechanical refrigerators and water coolers; also electric ranges and air-conditioning equipment. Phone today our nearest office for a C. I. T. field man to call and discuss how C. I. T. Service might aid you.

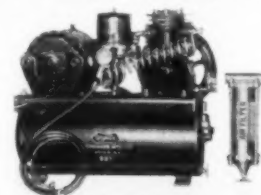
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BRUNNER BEER PUMPS are Sanitary, Compact, Noiseless and Complete



Model 8B3

Write for Information

BRUNNER MANUFACTURING CO.
UTICA, N.Y.

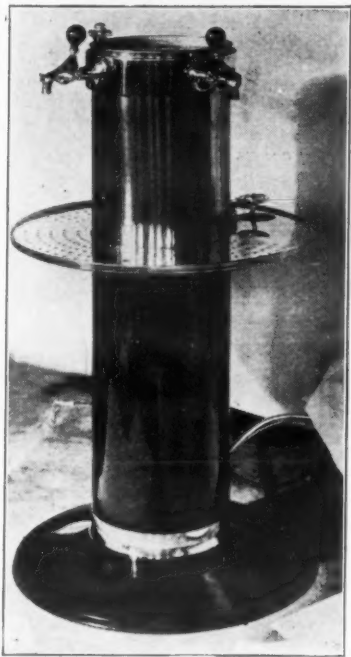
One of a complete line of five Brunner models with capacities of from three to twenty kegs. Price \$76.50. Less Filter \$69.50.

ROUND BEER COOLER FINISHED IN MONEL, EMPLOYS A TEMPRITE

DAYTON — A new beer-dispensing unit which requires no bar or other supporting equipment has just been introduced by the Gem City Sheet Metal Co. here. As shown in the illustration below, the new cooler is circular with beer taps around the top circumference. It is to be known as the "Temprite" dispenser.

The cooler employs a Temprite cooling unit. Base is of 16 gauge steel, fin-

Self-Supporting



New circular beer cooler of the Gem City Sheet Metal Works.

ished in dull black lacquer, while the top section, including the drain is made of Monel metal, so that exposure to the weather such as in an outdoor beer garden will not be harmful.

Two beer spigots, and one refrigerator water spigot are provided, with an additional spray which can be used as a pre-cooler for glasses. When water is not desired, the additional spigot can be used for beer, according to designers of the system. Overall height is 46 in., with a drain diameter of 2 1/2 in., a body diameter of 12 in., and a base diameter of 24 in.

Crosley Beer Cooler Specifications

The Crosley "Kool-Rite" bottle beer cooler is equipped with a temperature control switch located on the front of the cabinet. The "Kool-Rite" is portable, the condensing unit being housed in the bottom of the cabinet, with sides screened to provide ventilation for the air-cooled compressor.

Exterior finish is aluminum, hardware is nickel plated. Cabinet is fitted with bottle opener and cap receptacle.

Electro tinned copper coils are placed on the bottom of the cooling compartment.

Crosley Radio Corp.
Arlington St., Cincinnati, Ohio

Overall Dimensions (in.)

Width 31 1/2
Depth 24
Height 33 1/2

Capacities

Total No. of 12 oz. bottles 96
Size of refrigerating unit required (hp.) 1/4

Compartments

No. of compartments in cooler 1
Capacity of each compartment (12 oz. bottles) 96

Method of Cooling

Type of cooling employed Bottle immersion

Type of coil used Crosley Refrigerant used Sulphur dioxide
Is brine tank provided for holdover No

Insulation

Thickness in sides and ends (in.) 1 1/2
Thickness in bottom (in.) 2
Thickness in top (in.) 1/2

Drain

Are drain facilities standard Yes
Is plumbing connection necessary No

7 Distributors Named For Russ Coolers

CLEVELAND — Seven new distributors of Russ beer-dispensing equipment have just been appointed by Russ Soda Fountain Co. here. The new outlets are Fargo Food Products Co., Fargo, N. D.; Tavern Equipment Corp., Miami, Fla.; Caldwell-Sites Co., Roanoke, Va.; Modern Store Fixture Co., Providence, R. I.; O'Bannon Bros., Little Rock, Ark.; Veihl-Crawford Hardware Co., Fort Worth, Tex.; and Williams Hardware Co., Amarillo, Tex.

G-E EQUIPMENT SOLD

MORRISTOWN, Ohio. — General Electric beer-cooling equipment has been installed in the century-old Black Horse Inn here.

AIR CONDITIONING

BOOKLET TELLS AID IN HAY FEVER RELIEF

DAYTON — As a result of recent experiments in connection with Johns Hopkins University, Frigidaire Corp. has compiled a booklet on the value of air conditioning in the treatment of certain allergic diseases, entitled "Relief from Hay-Fever and Other Disorders by Means of Frigidaire Air Conditioning."

The information is presented in a non-technical manner, as the booklet is being mailed to prospects to help push sales of Frigidaire air-conditioning equipment.

First section discusses the allergic diseases, hay-fever and asthma, giving causes and possible methods of prevention and treatment. Greatest relief, as well as greatest protection from the diseases, is given by pollen-free air, the booklet points out.

"It is not possible, however, state the authors, 'for most victims of pollenitis to be away from home and business (and pollen-laden air) during the season of suffering. . . . As an alternate for change of climate for the relief of pollenitis, various attempts have been made to produce a pollen-free atmosphere in which the sufferer can find comfort without going to another locality. One of the most practical methods so far discovered in that direction is air conditioning.'"

Pollen Removal

Clinical tests along the line of riding air of pollen are reported next, the first being Dr. Isabel Beck's investigation of simple air filtering during the ragweed season of 1931. A system of filtering by means of an electric fan was installed in the bedrooms of 54 patients suffering from hay-fever and pollen-asthma. Additional precautions such as sleeping on cotton or air pillows and vacuum-cleaned mattresses, avoiding the causes of hay-fever in foods, staying away from talcum powder and domestic pets, etc., were taken.

Relief from hay-fever ranging from 50 per cent to 100 per cent in 79.7 per cent of the cases, and relief from asthma ranging from 50 per cent to 100 per cent in 64 per cent of the cases were the results noted. A certain amount of carry-over effects was achieved; that is, the patients were not so quickly susceptible to their diseases after treatment in the pollen-free air.

Johns Hopkins Test

Similar experiments with Frigidaire room-type air conditioners were carried out last year under the supervision of Dr. Leslie N. Gay at Johns Hopkins University in Baltimore. Results of these tests, reprinted in the booklet from the Journal of the American Medical Association, comprise a factual contribution to the discussion.

"After the efficiency of the apparatus in cleansing the air had been established," the book declares, "groups of ten patients were taken to the room on different days. A striking change was noted in from ten to fifteen minutes in the individuals suffering with hay-fever uncomplicated by asthma. 'Within an hour the symptoms had entirely subsided; and after two hours the individuals, who had previously been most miserable, had no evidence of hay-fever,' states Dr. Gay. 'Patients who were suffering not only with hay-fever, but also with asthma, did not respond quite so rapidly, although within an hour there was a striking improvement in their general condition.'"

"Exposure to the conditioned air for a few hours did not have a permanent effect. It gave relief while it lasted, but symptoms soon returned after contact with the pollen-infested air outside of the room."

Irritation Reduced

"When patients remained continuously in the room for a sufficient period, however, there was a marked abatement of the irritation which recurred upon subsequent contact with pollen-infested air."

A further and more intensive analysis of hay-fever and other forms of pollenitis succeeds this report, concluding with tables showing relative ability of various plants to produce pollen, and to cause allergic diseases.

Next section deals with Frigidaire air-conditioning equipment, explaining in non-scientific terms the functions it performs of cleaning and cooling the air.

"How Frigidaire Air Conditioning Affects Bodily Comfort," and "The General Therapeutic Value of Frigidaire Air Conditioning," are the two concluding chapters of the book. These take up in detail the ways in which air conditioning maintains and restores health and working efficiency in warm weather.

Carrier Equipment Cools Store in St. Louis

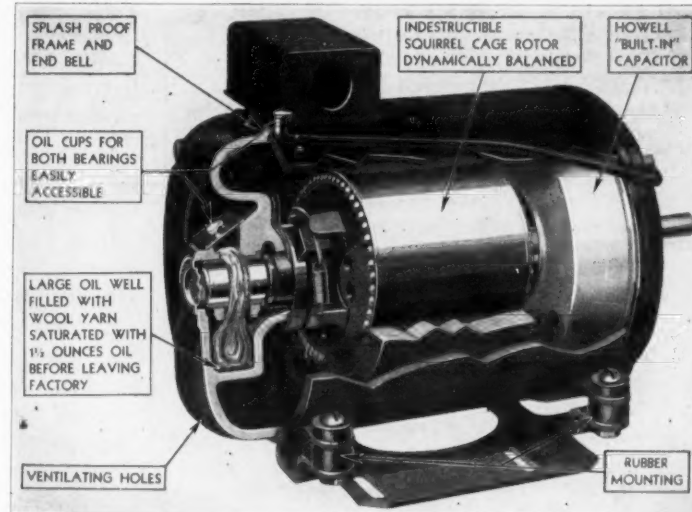
ST. LOUIS — A Carrier comfort-cooling system using brine supplied from the central plant of the St. Louis Refrigerating & Cold Storage Co. has been installed in Kline's women's apparel store here. All departments in the basement and four floors of the store are being cooled by the system.

Fifteen Carrier cooling units in various parts of the store cool and dehumidify the air before it is sent through ducts to grilles for circulation throughout the establishment. Some of the air is brought in from the outside, the remainder being recirculated.

In the basement of the building is a large tank in which water is chilled by brine piped to the store from the central refrigeration plant. The chilled water is pumped through the cooling units and then back to the tank.

Humidity and temperature of the air are regulated by automatic controls which vary the amount of cold water pumped through the cooling unit coils. The installation was made by Sears & Plou, St. Louis distributor for Carrier Products Corp., with the air-conditioning department of the Union Electric Light & Power Co., utility, cooperating in the plans.

Thirty days elapsed between the date the order was placed and the time the system began operation.



Howell Built-In Capacitor Solves the Space Factor

Howell, a pioneer in the development and building of capacitor motors, now offers a fractional horse power motor with a built-in capacitor, which brings the appearance of the motor to a conventional form, yet gives all of the advantages of a capacitor motor. This overcomes the greatest objection to this type of motor, as it solves the space and appearance factors.

The new Howell Capacitor motor does not have any outside capacitor.

The capacitor is built inside the motor frame; it is compact, neat in appearance, light in weight, yet it has an abundance of power for its rating; with high starting torque, high efficiency, high power factor and liberal overload capacity.

Howell Sales and Service in over 50 Principal Cities

Howell Electric Motors Co.

Howell Michigan
Pioneer Builders of Capacitor Start Motors

Model D-35

3 1/2 cu. ft. NET capacity; 8 sq. ft. of shelf space (N. E. M. A. rating). Has two ice trays, each with capacity of 21 ice cubes—42 cubes in all. Additional space for extra single or double depth tray. 3" insulation at top, sides, bottom and in door. Dimensions: 50 1/2" high, 23 1/2" wide, 24" deep.

\$89⁵⁰

DELIVERED, INSTALLED
ONE YEAR'S FREE SERVICE



Only
the NEW
CROSLEY
Electric
REFRIGERATOR
has it!

The
SHELVADOR

U. S. PATENT 1,898,922

The most sensationally successful
development in refrigeration history

CROSLEY is approaching the end of its second year as a manufacturer of electric refrigerators for the home. The first year, 1932, proved Crosley Electric Refrigerators to be mechanically correct and exceptionally free from service requirements. The first half of the second year, 1933, brought the introduction of the SHELVADOR and the establishment of Crosley as one of the real leaders in the electric refrigerator field. Thousands of dealers, many of whom

have sold electric refrigerators for years, have flocked to the Crosley standard. They found that the SHELVADOR causes people to come and buy Crosley Electric Refrigerators; that it breaks down competition; that the outstanding quality of Crosley Electric Refrigerators at their low prices appeals to all classes. The Crosley factories have operated night and day for months to meet the amazing demands of Crosley distributors, dealers, and the public.

SHELVADOR actually gives Crosley Electric Refrigerators greater capacity than their ratings indicate, by increasing their "usable capacity." Try to put everything that goes into the SHELVADOR on the shelves of an ordinary refrigerator and you'll be amazed. The added convenience of SHELVADOR costs nothing extra. Even without it, the new Crosley Electric Refrigerators would represent the world's greatest refrigerator values. With

SHELVADOR, the values are so outstanding that there is no standard by which they may be compared. See your Crosley distributor. Study the new Crosley SHELVADOR Electric Refrigerators. Note their quality. Let the prices speak for themselves. Examine the SHELVADOR. Instantly you will see its many advantages. At once you will understand why the new Crosley SHELVADOR Electric Refrigerators are sweeping everything before them.

Montana, Wyoming, Colorado, New Mexico and west, prices slightly higher
The Crosley Radio Corporation - Cincinnati
(Pioneer Manufacturers of Radio Receiving Sets)
POWEL CROSLEY, Jr., President. Home of "the Nation's Station"—WLW

ALL PRICES INCLUDE DELIVERY..INSTALLATION..ONE YEAR FREE SERVICE

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Electric REFRIGERATOR

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The Open Door to an Organized Industry

PRESIDENT Roosevelt has opened a door to all manufacturers—the door to organized industry. Not only has he propped this door open, but he has pointed toward it with an expression which many have interpreted as meaning: "Enter here, or else. . ."

The "New Deal" administration has made it clear that the refrigeration industry, in common with other industrial groups, must establish a form of self-control satisfactory in scope and purpose to the government; or be subjected to a measure of dictatorship. Industry is being given a fair chance to clean its own house, and to set its own tangled affairs in order. Failing to do so, control may pass to bureaucratic authorities.

Interestingly enough, it is just this sort of industrial self-control and organization to eliminate trade abuses that manufacturing and selling organizations have been crying for during the last three years. How to check cutthroat competition has been one of the chief topics of discussion whenever executives got together ever since the days when business began looking around the corner for prosperity back in 1930. And nearly always the discussion would end up helplessly with: "There ought to be a law."

Well, there is a law now—a very liberal and democratic law which allows business to set up its own rules. Moreover, this law is backed by a solidly regimented and enthusiastically favorable public opinion, in force reminiscent of war days. But now that the door to an organized industry and a fair practice code is open, and that both government sanction and public sentiment favor entering it, some manufacturers are hesitating a bit before joining the procession.

In Detroit last Thursday top executives of manufacturing companies belonging to the Refrigeration Division of the National Electrical Manufacturers Association met to begin working out a supplemental code for the electric refrigeration industry. President Roosevelt and N. I. R. A. Administrator Johnson have already approved the broad Nema code dealing with wages and hours of labor for the entire electrical industry. It remains now for the Refrigeration Division to frame its supplemental code, which includes the detailed rules for trade practices.

Some eighteen of the industry's manufacturers of electric refrigerators, ranging from the largest down to the admittedly smallest, are either members of Nema or have applied for membership. This group now represents a high percentage of the total production of household units. A number of active manufacturers, however, remain outside the fold. To these companies the following remarks might be addressed:

(1) While in the past there may have been objections to the refrigeration industry tying itself up with Nema, and while in the future there may be justification for a separate association of refrigeration manufacturers, those objections to the big, overall organization certainly are ineffective now. Administrator Johnson has made it clear that he wants to deal with a few large associations, rather than with a multitude of small ones. The present Nema membership is repre-

sentative of the industry (as required by the NRA rules) and the Nema code has already become law. It is too late to argue the merits of Nema. The Detroit meeting of July 6 provided that opportunity and the decision was in favor of traveling the electrical path.

(2) There is still time to be in on the party which frames the code of fair practice for the refrigeration industry. The group which met in Detroit for that purpose last week made excellent progress in drafting a detailed program for clean competition but decided to allow a little more time for consideration of questionable points before taking final action. Another meeting is scheduled to be held at the Book Cadillac in Detroit on August 30, at which time it is expected that the code will be completed and passed through the established channels for presentation to President Roosevelt. By applying for membership in Nema within the next fortnight, those manufacturers now on the outside may have a hand in the final decisions on the wording of the code. Since the law provides that an entire industry will be governed by a code when it is signed by the President, this document is a matter of direct interest to every manufacturer.

(3) The Refrigeration Code as partially drafted at the Detroit meeting Aug. 10 is no vague collection of glittering generalities. It deals directly and definitely with each one of the problems of competition which have been troubling the industry. The executives of 18 companies who sat around the table last Thursday displayed a sort of grim determination as they expressed unanimous approval of one proposal after another—a set of rules which forecast a house cleaning such as no one would have dreamed of proposing a year ago.

(4) Representatives of the Refrigeration Division who assembled in Detroit last week definitely expressed their desire to have 100% representation of the household electric refrigeration industry at the next code meeting, and suggested that ELECTRIC REFRIGERATION NEWS give information regarding the procedure in acquiring membership. Mr. Louis Ruthenburg, consultant of the Nema Refrigeration Division with offices at 2638 Book Tower, Detroit, Mich., has been designated to receive applications, and will be glad to assist manufacturers in presenting their applications in proper form.

(5) In the case of the manufacturers of parts and supplies, letters should be addressed to Mr. Walter Seeger, chairman of the Association of Electric Refrigeration Accessory Manufacturers, in care of Electric Refrigeration News, 550 Maccabees Bldg., Detroit, Mich. Mr. Seeger has requested the News to handle the details of correspondence until the completion of a permanent organization. The next meeting of this group will be in Detroit Thursday, Aug. 31, and here again, all concerned have an opportunity to take part in the drafting of supplemental codes. Owing to the wide variety of products which come under this heading, it is quite probable that a number of sections will be formed, with supplemental codes for each related group.

It is recognized, of course, that many companies making a variety of products already have contact with NRA through other associations. Some companies are confronted with a puzzling situation because of the possibility of conflicting rules which may be established by several trade groups in which they have membership. It appears advisable, therefore, that all companies making refrigeration be represented at these meetings in order to lend their aid in avoiding unnecessary complications in the codes of overlapping industries.

If we sense correctly the trend of sentiment in the industry and the direction of the NRA tide, this matter of industry codes requires immediate and most serious attention. The NRA may solve the economic problems of the country or it may simply make a new set of problems. It may create employment or it may be a false hope. But it is certainly going to put the spotlight of public opinion on competitive practices. The rewards and the penalties may not be bestowed wisely, or even fairly, but it is a safe bet that a lot of things are going to happen in somewhat rapid sequence. In our opinion, those who play the game fairly and squarely according to the rules are most likely to benefit from this vast experiment in economic control.

What Others Say

Many a "practical" hard-headed business man sitting at luncheon these days is much puzzled, a little resentful. The trade-mark of the NRA which the practical boys have dubbed "the blue hawk" seems to bother him as a sign and symbol of the times.

"Business was getting better from natural causes anyway; why do we have to fuss with stickers, Liberty Loan methods and a lot of noise now?" is the way his conversation shapes itself.

Yet he is the same man who, a few years ago in his trade association, cried aloud to the government to give him power to keep the chiseler, the price-cutter, and the fly-by-night from hurting his own legitimate profits.

He is out of touch with the growing belief that the forces which produce unemployment and employment at starvation wages are not ordained of God and are not utterly beyond human control.

The intensely practical man who takes pride in his hard-headedness assumes unwarrantedly that the orthodox methods were about to win out. Orthodox methods were tried and failed miserably. Someone has said that the man who is always orthodox is in that unfortunate position where he can neither eliminate an old idea nor assimilate a new one. The tendency to do something is abroad in the land and the blue hawk is a symbol of it.

John Galsworthy, in "Candela," tells how in the year 1401 the Dean of Seville solemnly resolved: "Let us build a church so great that those who come after us may think us mad to have attempted it." This church which took 150 years to build stands today as a monument to men who had a dream.

The blue hawk may be a symbol of the fact that America once more looks ahead, once more has a dream of a better life for all its people.

The propaganda being carried on in order that the dream may come true is rather noisy—just a bit blatant, perhaps. But this is the American way. If it is somewhat distasteful to those who dislike flag-waving and national emotionalism, just let them remember how infinitely better it is than the repressive methods that would have been put into effect in other countries.

Mr. Stalin is trying out a recovery program in Russia. Instead of leading the mob, however, he is driving it. The firing squad, secret killings, exile—these are a few of his weapons.

Even in enlightened Germany, with all its brain power, Mr. Hitler is going so far as to stamp upon religion to carry his ends.

Mussolini would never think of carrying out an economic revolution under a peaceful symbol such as the blue hawk. He would tell business men what to do and if they did not do it they would soon find themselves in a pretty mess.

Printer's Ink can readily understand why the "practical" business man with his prenatal faith in natural economic law should write a little under all this band playing and banner flying. He cannot be blamed for his dislike of loose talking and muddle-headed thinking that are encountered here and there as the campaign progresses.

But, we repeat, this is typically American and infinitely better than other methods which he would dislike still more.

Therefore, as the spirit of adventure once more grips America, it is the duty and privilege of the business man to do his best to make the dream a reality and not to be unduly critical of the methods used.—Printers' Ink.

GRUNOW FACTORY VISITED BY UTILITY'S SALESMEN

CHICAGO—Commonwealth Edison Co.'s retail salesmen were guests Aug. 9 of General Household Utilities Co. and its Chicago distributor, Grunow-Illinois Co., for an all-day meeting here which included a trip to the factory, lunch at the Medinah Athletic club, and an afternoon sales meeting.

Principal speakers were William C. Grunow, president of General Household Utilities Co., who spoke briefly in the middle of the afternoon, and H. C. Bonfig, vice president, speaking on "The Past, the Present, and the Future Efforts of the Factory Sales Departments."

Others on the afternoon's program included H. A. Malcom and L. W. Cohen of Grunow-Illinois Co.; Dr. J. D. Jordan, Duane Wanamaker, and J. J. Davin of the factory; and O. H. Hogue and G. S. Howland of Commonwealth Edison Co.

WEBB & MORGAN, INC., WINS FLORIDA G-E CONTEST

ST. PETERSBURG, Fla.—Webb & Morgan, Inc., G-E dealer here, was the winner of a sales contest conducted recently by George Patterson, Inc., Florida General Electric distributor.

Reads Every Issue

Georgia Power Co.
Rome, Ga.

Editor:

I read every issue of your ELECTRIC REFRIGERATION NEWS with a great deal of interest and enjoy them very much.
W. B. FARNSWORTH,
Division sales supervisor.

Great Interest

Consolidated Gas Co. of New York
New York City

Editor:

Your weekly publication is read with great interest by the various employees in this division. The statistics which are shown for the sale of electric refrigerators for each month of the year are very useful.

J. LOEBENSTEIN,
Manager, domestic division.

Readers Want to See More News About

"Air conditioning and plans of new type installations."—C. L. Davis, 182 Woodbine Ave., S. E., Warren, Ohio.

"Engineering section larger."—Clyde Lewis, 26 N. Newitt Pl., Kingston, Pa.

"Successful wholesale operations."—R. F. Healy, 420 St. Paul St., Rochester, N. Y.

"Service."—F. T. Muto, 6965 Ravenswood Ave., Chicago, Ill.

"Air conditioning—general engineering on commercial refrigeration in standardizing on correct method to figure refrigeration loads and other specifications."—D. R. Vanneman, 245 Fifth Ave., New York City.

"Prices and descriptions of various refrigerators."—B. Miller, 237 E. Main St., Lexington, Ky.

"What is to become of the refrigeration industry."—M. W. Rudd, 4791 Baldwin, Detroit, Mich.

"Commercial servicing and installations."—F. C. Berger, 1214 Bellevue Ave., Laureldale, Pa.

"Safety precautions for refrigeration gases."—W. J. Turenne, 146 Maple St., Danvers, Mass.

"Independent service men's work and ideas."—Jos. Eule, 228 Hillside Ave., Newark, N. J.

"Service problems."—M. S. Johnston, 900 Mulberry Ave., Hagerstown, Md.

"Refrigeration cases."—H. E. Goldman, 4950 1/2 N. Kimball Ave., Ravenswood Sta., Chicago, Ill.

"Sales plans, methods and policies in connection with marketing through a dealer organization."—H. A. Malcom, 850 Lake Shore Dr., F. D. Sta., Chicago.

"Commercial data on air conditioning and cooling."—N. N. Simon, 301 W. 22nd St., G.P.O., New York City.

"Service."—R. E. Henriquez, 2503 11th St., Monroe, Wis.

"Refrigeration system specifications."—H. L. Foster, 2230 Buhl Bldg., M. O., Detroit, Mich.

"Air conditioning."—F. H. Morgan, 1417 Glendale Blvd., Los Angeles.

"Service of various type of machines and installations."—Raymond T. Welch, 52 Lexington St., New Haven, Conn.

"Opening up new channels of distribution."—M. J. Wolf, 605 W. Washington Blvd., Chicago, Ill.

"Ice cream cabinets and soda fountains."—Fred Schuld, 11905 Soika Ave., Cleveland, Ohio.

"Engineering data, service helps."—Edward Tatina, 8455 Oglesby Ave., Chicago, Ill.

"Developments in counter freezer field."—H. A. Adams, Jr., 1408 W. Union Blvd., Bethlehem, Pa.

"Engineering."—James L. Yarian, 7238 Calumet Ave., Chicago, Ill.

"Engineering—of a less technical nature. I am well satisfied with the News as it is however."—Herbert Werner, R. No. 9, Menomonie, Wis.

Kind Words

"Good broad-gauged publication; I like it."—Norman K. Fuller, Devon, Conn.

"You are doing a fine job."—K. C. Richmond, Editor, Coal-Heat, Chicago.

"Your editorials are great."—James L. Kirby, Covington, Ky.

"Your publication is appreciated by me as it covers a wide field and keeps me up to date on the latest in new developments; and I feel it is working for a cause."—Paul C. Chapin, Newtown Square, Pa.

"Refrigeration and Cancer—A False Propaganda"

Reprinted from: The Journal of the American Medical Association, Aug. 12, 1933.

Recently an attempt has been made to connect the apparent increase in cancer, the prevalence of dental caries and certain other less definite types of ill health with the growth and use of mechanical refrigeration. Whenever industries are involved in propaganda in the health field, the commercial motive is naturally suspected. THE JOURNAL has no brief for any interest involved in the dissemination of such claims, nor is it concerned except from the point of view of the public health in the claims made for mechanical refrigeration as opposed to the use of ice. It does have an interest in proper interpretation of statistics concerning the public health, in order that the public may not be led into fallacious beliefs or unwarranted fears.

Inquiries have come to THE JOURNAL from physicians, health officers and better business bureaus in widely separated parts of the country relative to the propaganda concerned. Claims are made that mechanical refrigerators devitalize the food and that this alleged devitalization of the food may be responsible for the increase in cancer, the prevalence of dental caries, and a list of ills vaguely indicated as "toxic poisoning, constipation, acidosis, pyorrhea, rectal troubles" which "plague the American people."¹ It is alleged that the "respira-

tory" gases from foods refrigerated in hermetically sealed chambers "as dry as Death Valley" devitalize the food and render it toxic. Some highly colored pictures of a cemetery are accompanied by statements that cancer mortality has doubled since 1900, as have deaths from appendicitis. Vague references are made to "many leading authorities," but these are not named. Acknowledgment is also made by the promoter, Mr. Teigen, to "that, great international authority on refrigeration, his former associate and employer." This gentleman is not named, but information in the possession of THE JOURNAL indicates that the reference is to a Mr. J. M. Cattanauch of Minneapolis. THE JOURNAL has no evidence as to Mr. Cattanauch's scientific attainments or to those of Mr. Teigen.

A letter was addressed to Mr. Teigen asking him to elucidate certain of his claims. No answer was received, so a copy was sent again by registered mail. A return receipt for the registered communication is all the reply that has thus far been received, though six months have elapsed since the date on the return receipt.

The circular to which reference is made appears to be sent unsolicited. Mr. Teigen,

however, publishes a brochure which may be had for a dollar. This is an amplification of the claims made in the circular. It is characterized by the same definiteness in quoting fragments from recognized authority, coupled with vagueness and indefiniteness in the conclusions drawn from such quoted matter. In no place is the claim definitely made that cancer, appendicitis, or carious teeth are attributable to the increased use of foods mechanically refrigerated, except in the title of the booklet.² The inference, however, is drawn so that the uncritical reader will inevitably make his own deductions to that effect.

Whatever may be the motive which inspires this propaganda, it may be said definitely that there is no scientific evidence to support the claims. The circulation of such unfounded literature conjures weird phobias among its readers and is prejudicial to the public health because it diverts attention from real problems and discredits genuine health education. If there is any method by which it can be reached, it should be stopped.

1. Teigen, F. A.: Do They Deserve Contaminated Foods and Polluted Water? Minneapolis, 1932.

2. Teigen, F. A.: Cancer, the Potential Penalty of Electric Refrigeration, Minneapolis, 1933.

DELUXE SALES JUMP, KELVINATOR REPORT

DETROIT—While Kelvinator sales this year as a whole have increased 160 per cent over a year ago, deluxe sales have jumped 870 per cent, according to H. W. Burritt, vice president in charge of sales.

In the three months of May, June, and July, 19 times as many deluxe Kelvinators were sold as during the corresponding three months of 1932, he said.

"This remarkable gain in extra-quality buying on the part of refrigerator purchasers can only be interpreted as a definite sign that the public is now willing to pay the extra cost necessary to get the best," Mr. Burritt said. "We feel that this is the best of indications that the buying power of the country is increasing rapidly."

Mr. Burritt also attributes much of this gain in deluxe model sales to the extra effort expended by Kelvinator salesmen in "stepping up" their prospects from smaller models to the deluxe line, as a result of special sales bonus in the form of an all-expense paid trip to Detroit, which Kelvinator is offering to all selling men who sell 100 cu. ft. of deluxe models.

"Another important factor in this deluxe sales increase has been the fact that Kelvinator's main 1933 advertising and sales program has been built around the deluxe line," Mr. Burritt explained.

News Photos Feature Norge Folder

DETROIT—News-of-the-day pictures are a feature of a new prospect mailing piece being created by Norge Corp.'s advertising and sales promotion department.

"It's News—and It's Norge" is the theme of the four-page leaflet, which shows Mrs. Franklin D. Roosevelt riding her favorite horse, Babe Ruth at bat, and the like. Center spread, devoted to Norge refrigeration, ties the news theme up with Norge features.

GRUNOW DISTRIBUTOR HAS 4 DEALER MEETINGS

SEATTLE—F. B. Connelly Co., Grunow distributor, recently held four meetings in different cities to introduce the new Grunow Progress refrigerator line to dealers. First meeting was July 1 at Portland, Ore. The second was held in Seattle on Aug. 1. On Aug. 3, another group of dealers met in Spokane, and on Aug. 5, a fourth meeting was staged in Billings, Mont.

NEW ADVERTISING AGENCY FOR STEWART-WARNER

CHICAGO—Blackett-Sample-Hummert, Inc., Chicago agency, has been selected to handle advertising of electric refrigerators and ranges manufactured by Stewart-Warner Corp. here.

Restaurant Buys Filtrine-Servel Equipment

NEW YORK CITY—Silvers Restaurant on Chambers St. here has just installed Filtrine water-cooling equipment in connection with a Servel commercial refrigerating machine. The sale was made by Charles Roule, restaurant specialty salesman for Servel here.

The installation includes a Filtrine model M-40-R (a 40-gal. storage water cooler) and a model 100-DW. The machine is a 1½ hp. size, installed in the basement to serve cold water outlets to two locations on the floor above by means of short runs of insulated piping.

On Aug. 2, one of the hottest days of the summer here, outdoor temperatures ran up to 104° F. but 47° water was being dispensed by the system.

SALESMAN NAMES ROAD TO CLINCH THREE SALES

FALL RIVER, Mass.—Two Smith brothers living on "Cough Drop Lane" near here, owe the seeming coincidence to Louis B. Devine, aggressive salesman for the Fall River Electric Light Co., Frigidaire dealer in this city.

Mr. Devine sold milk-cooling equipment to three farmers before the road on which they lived was wired for electricity. Finding that the lane was unnamed, the local power company balked on running in a high-voltage line.

The resourceful Frigidaireman, remembering that one of his milk coolers was going to Arthur and Francis Smith, took up the name problem with the town clerk in Tiverton, Mass., the township in which the road is located.

The road was registered as "Cough Drop Lane," and all three customers now have wired homes and Frigidaire milk-cooling equipment.

Corozone Introducing New Deodorizer

CLEVELAND—Corozone Co., manufacturers of air-conditioning equipment here, is introducing a new deodorizer for electric refrigerators and ice boxes known as the "Absorbo." It will retail for \$2.25.

The deodorizer is a small metal cylinder with small perforations in the top and the upper portion of the wall, the odor-absorbing substances being inside.

GRUNOW PUBLISHES FOLDER

CHICAGO—As a means of introducing the three new Progress models of the Grunow refrigerator line to prospective and established dealers, General Household Utilities Corp. has issued a two-tone folder illustrating the models, giving their key specifications, and pointing out special features pictorially and with descriptions.

A FACT THAT 10 YEARS IN THE REFRIGERATION INDUSTRY HAS TAUGHT US

A Dual OBLIGATION

Every business has two obligations—one to itself, the other to its industry. Few concerns succeed which do not discharge their obligations to both. Therefore, every plan or policy which we inaugurate is predicated upon our sincere desire to fulfill both requirements.

UNIVERSAL COOLER CORPORATION
DETROIT, MICHIGAN
BRANTFORD, ONTARIO

MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD AND COMMERCIAL REFRIGERATION EQUIPMENT

SERVICE

Majestic Issues Service Information On Hermetic Machines

CHICAGO—To bring about a better understanding of Majestic hermetic refrigerators, engineers of the Grigsby-Grunow Co. have issued a comprehensive set of data sheets to their distributors. Design, operation, and service of Majestic hermetic machines are treated in simple, non-technical terms, and illustrated with numerous pictures and drawings.

Basic operating principles of the Majestic hermetic machines are exemplified by model No. 100 which is described in considerable detail. Other machines are very similar in design, varying only in larger evaporators, different motors, different electrical equipment, and an improved compressor in this year's series of "Electro-Sealed" models.

As shown in Fig. 1, the compressor is a four-vane rotary type, with the center of the rotor offset from the center of the bore of the compressor body. As the rotor revolves, the vanes move in their respective slots in the rotor (see Fig. 2).

The four chambers formed between the body and rotor assembly change in volume as the rotor revolves. By this action, the vaporized gas is drawn into each successive chamber by a suitable arrangement of intake and exhaust ports. The gas is thereby compressed, and discharged into the compressor dome.

Due to the volume of the dome, the velocity of the compressed vapor is reduced to such an extent that oil particles suspended in the vapor settle down to the base of the compressor housing (see Fig. 3).

From the compressor dome, a tube delivers the compressed vapor to the condenser, where it is converted into a liquid—which then passes into the float valve chamber.

The machine has a positive oil-circulating system which supplies all bearing surfaces with oil under pressure, Majestic engineers explain. In addition to lubricating the bearings, the oil system also floods the motor windings. Thus the motor heat is dissipated by the oil through the oil cooler—a small radiator which is assembled in the same housing with the sulphur dioxide condenser and cooled by the same fan. The condenser is made of finned copper tubing, one of its sections being used as an oil-cool-

Majestic Hermetic Compressor

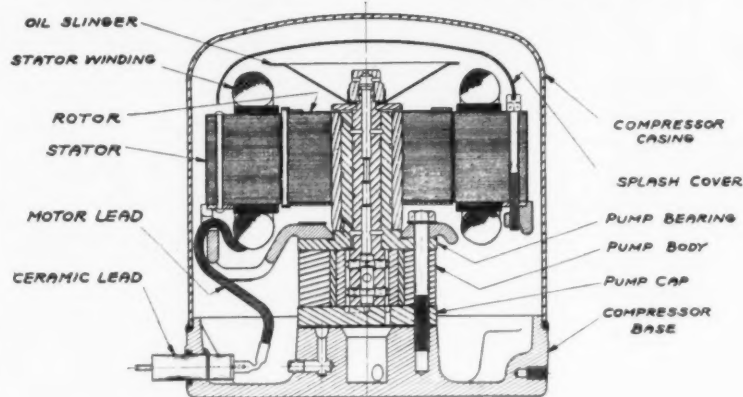


Fig. 1—Vertical section of a Majestic hermetic rotary type compressor.

ing coil (see "Operating Cycle" Fig. 3). The float valve is of the needle valve type, and is placed between the con-

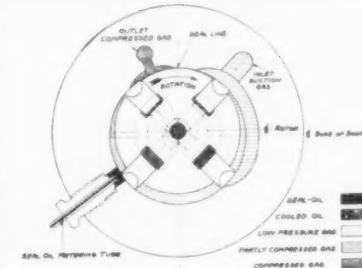


Fig. 2—Section of a Majestic compressor, showing its 4 vanes

denser and the evaporator. This is commonly known as a high side float.

Its function is to meter the liquid sulphur dioxide into the evaporator as required to maintain the proper distribution of refrigerant throughout the system. It also maintains the proper pressure differential between the high and low pressure sides of the system. The float valve consists of the following parts: A float ball which is made of copper plated steel; the body which is made of drop forged brass; the float chamber which is made of drawn brass; the seat which is made of special bronze and the needle which is made of stainless steel.

The float ball is constructed of steel so that in the event any particles of foreign matter obstruct the needle on the seat, the valve will not have to be removed in order to clear it. The clearing of the valve may be accomplished by the external use of a magnet to raise the float ball in the chamber.

Evaporator

The evaporator or cooling coil is located in the food chamber of the refrigerator. It is constructed with a horizontal header to which is connected a series of looped copper tubes formed around the ice tray sleeves. Inside the header is a buoyant oil return cup guided by the suction line fitting.

This cup floats on the surface of the SO-2 and skims the oil which collects

starting winding and the running winding.

The stator is made up of specially annealed steel laminations which are punched to size, riveted together, and ground to dimensions. The stator is wound to form four poles. Each pole winding is made in three sections. The running and the starting winding are wound with double cotton covered wire.

The motor rotor is built up of laminations of steel of the same specifications as the stator. The center of the rotor is fitted with a sleeve, the bottom and inside of which form a bearing surface with the compressor bearing plate. The inside of the sleeve and the outside of the compressor bearing plate are grooved spirally to allow continuous forced feed lubrication.

The motor rotor is connected to the compressor rotor at the top of the motor rotor sleeve, by a floating universal connector. This driving arrangement distributes the bearing loads of the motor and compressor to their respective bearings (see Fig. 1).

Transformer and Electrical Condenser

The electrical condenser and the transformer are used to provide the necessary phase displacement effect in the starting windings of the motor designed to give, in effect, the high starting torque and high efficiency of a two phase motor on single phase power supply.

When the motor starts, the transformer increases the voltage of the condenser thus increasing its phase displacement effect. When the motor reaches the desired speed, the relay opens the transformer circuit but allows the condenser to remain in the circuit, thus retaining the phase displacement characteristics during normal running.

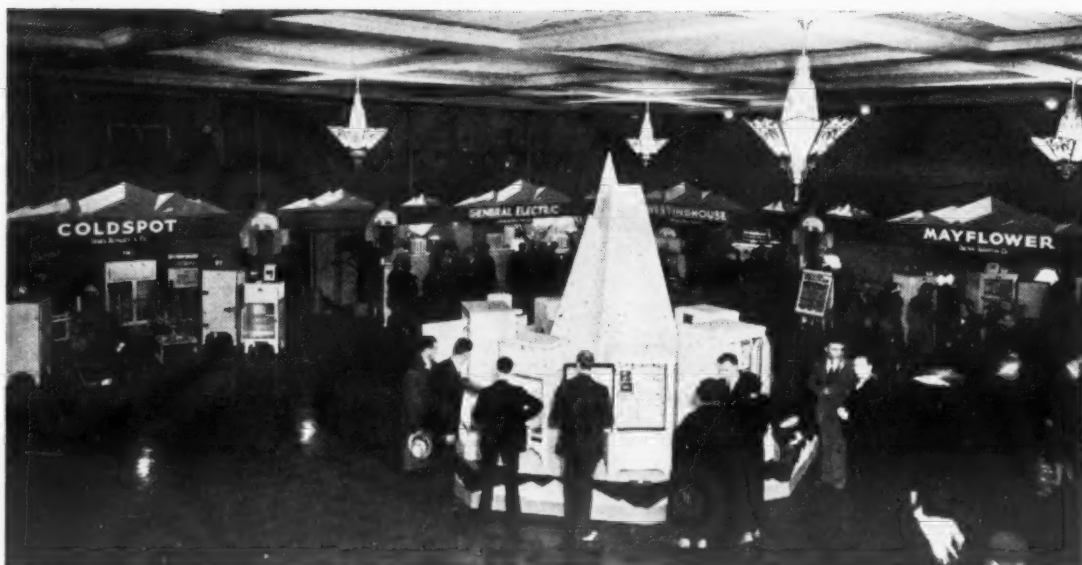
The phase-shifting transformer and the electrical condenser are separate units mounted on the unit base. The electrical condenser has a capacity of eight microfarads, and is impregnated against moisture.

Relay

The relay is made of the following parts: solenoid coil and plunger, contact arm and contacts.

Upon starting, the current through the solenoid winding is sufficient to lift the armature plunger, closing the up-

Third Annual Electric Refrigeration Week



Cooperative electric refrigeration shows will bring profit to sales outlets in more than 500 cities

Electric Refrigeration Week (September 30 to October 7) is harvest time for electric refrigerator sales. It is expected that more than five hundred communities will stage a Cooperative Electric Refrigeration Show during that week.

There is no time to lose if preparations for a cooperative show are not already under way in your city.

Three years of experience point to the Cooperative Electric Refrigeration Show as a most consistently successful means of developing electric refrigerator sales. In many cases enough refrigerators have been sold on the exhibit floor to pay all costs of the endeavor. Always a great number of excellent new prospects are uncovered, many of whom are sold in the ensuing thirty days.

No individual investment you can make in sales effort, sales promotion or advertising is

likely to bring you such profitable return as will your fair share of time and money invested in the Cooperative Electric Refrigeration Show.

It should be of leading interest now to every electric refrigerator sales outlet as a means of October sales—it should be of interest to every central station as a means of building domestic load and revenue.

The Electric Refrigeration Bureau offers \$1200 in prizes to local Bureaus or Electrical groups which put on the most effective cooperative shows during Electric Refrigeration Week. The contest is so arranged that small and large communities have equal chances of winning.

Complete information about the Electric Refrigeration Week Contest, about the procedure in past successful cooperative shows, and about available promotional aids will be quickly supplied on request.



ELECTRIC REFRIGERATION BUREAU

420 LEXINGTON AVENUE

NEW YORK CITY

Operating Cycle of Majestic Hermetic Systems

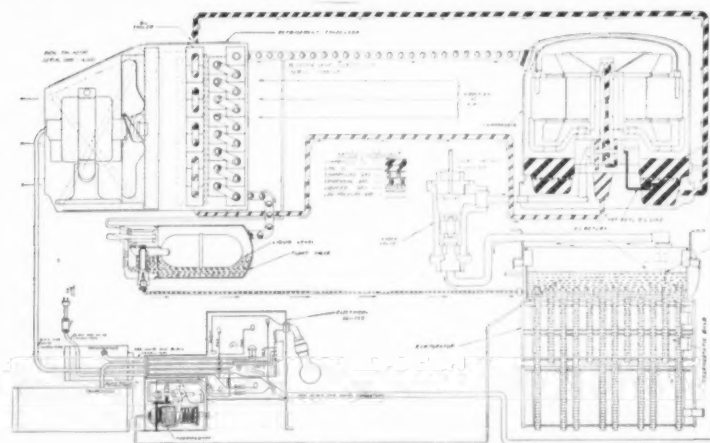


Fig. 3—Gas and oil cycle chart of the Majestic refrigeration system employed in early models, now replaced by system charted in Fig. 11.

on top of the SO-2, returning it to the compressor with the suction gas. This oil cup prevents the formation of an excessive oil blanket which would retard vaporization of the sulphur dioxide (see Fig. 3).

Check Valve

The check valve, which is located between the evaporator and the compressor, prevents the backward flow of

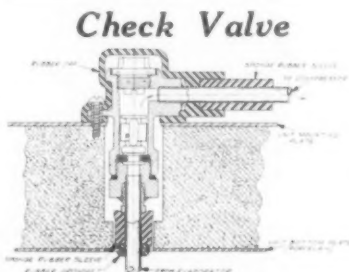


Fig. 4—Check valve which prevents gas and oil from entering evaporator in off-cycle periods.

hot gas and oil from the compressor to the evaporator during the idle period. It consists of a forged brass body, brass plunger, and stainless steel seat (see Fig. 4).

ELECTRICAL EQUIPMENT

Compressor Motor

The Majestic motor is a squirrel cage, induction motor of the capacitor type. It consists of two parts, the stator and the rotor. The stator has two windings which are known as the

per contact and thus connecting the phase-shifting transformer into the motor circuit.

When the motor reaches normal speed, the current decreases, releasing the plunger, which opens the upper contact and closes the lower contact.

Thermostatic Control

The thermostatic control is the device which is used to regulate the temperature of the food compartment of the refrigerator. If a quantity of sulphur dioxide is charged into a sealed tube and bellows assembly, there will be a certain definite movement of the bellows for every change in pressure, due to change in temperature.

In the thermostat, a cross arm is placed between the bellows head and the range spring, utilizing the motion due to pressure changes to operate a special type of over-center switch. It can readily be seen that if the spring pressure is increased against the bellows, a higher pressure and consequently a higher temperature of the tube will be necessary to throw the switch.

Conversely, if the spring pressure is decreased the bellows pressure necessary to throw the switch will be decreased.

The temperature control knob is merely an external means of decreasing or increasing the spring pressure, thereby, regulating the box temperature.

Overload Trip

The overload trip is a device designed to protect the motor windings against electrical overloads. Should there be any electrical disturbances or overloads, the trip will break the circuit. (Continued on Page 14, Column 1)

SERVICE MAN GIVES ED A HOT SALES TIP

NOTHING SERIOUS, MADAM. IT'S OKAY NOW. BY THE WAY, I NOTICED YOU'RE USING OLD-FASHIONED ICE TRAYS. HAVE YOU SEEN THE NEW ONES MADE OF FLEXIBLE RUBBER?



I'VE HEARD ABOUT THEM, BUT I'VE NEVER SEEN THEM.

WITH THESE FLEXIBLE RUBBER TRAYS YOU GET ICE CUBES AT THE REFRIGERATOR INSTEAD OF OUT OF THE KITCHEN SINK. THEY POP RIGHT OUT—ONE AT A TIME OR THE WHOLE TRAY FULL.



I SEE. THEY SAVE A LOT OF TIME AND TROUBLE, DON'T THEY?

SAVE ICE, TOO. YOU LOSE ABOUT 25% OF YOUR ICE WHEN YOU MELT CUBES OUT OF OLD-FASHIONED TRAYS. ALL OUR REFRIGERATORS ARE EQUIPPED WITH THESE NEW TRAYS.



HOW WONDERFUL. I'D LIKE TO BUY SOME FOR OUR REFRIGERATOR.

OH, HELLO, HELEN. LOOK AT THE NEW FLEXIBLE RUBBER TRAYS I JUST BOUGHT. THIS MAN SAYS ALL THEIR NEW MODELS ARE EQUIPPED WITH THEM.



YES, I'VE SEEN THEM. THAT'S ONE REASON WHY WE'RE THINKING OF GETTING A NEW REFRIGERATOR.

THAT AFTERNOON

ED, I RAN INTO A HOT PROSPECT IN YOUR TERRITORY THIS MORNING. SHE CAME IN WHILE I WAS SERVICING WHITE'S JOB. GAVE HER A SELL ON FLEXIBLE RUBBER TRAYS. NAME IS BAKER—4211 PROSPECT AVE. WHY DON'T YOU DASH OUT AND SEE HER?



THANKS, JOE. I'M ON MY WAY.

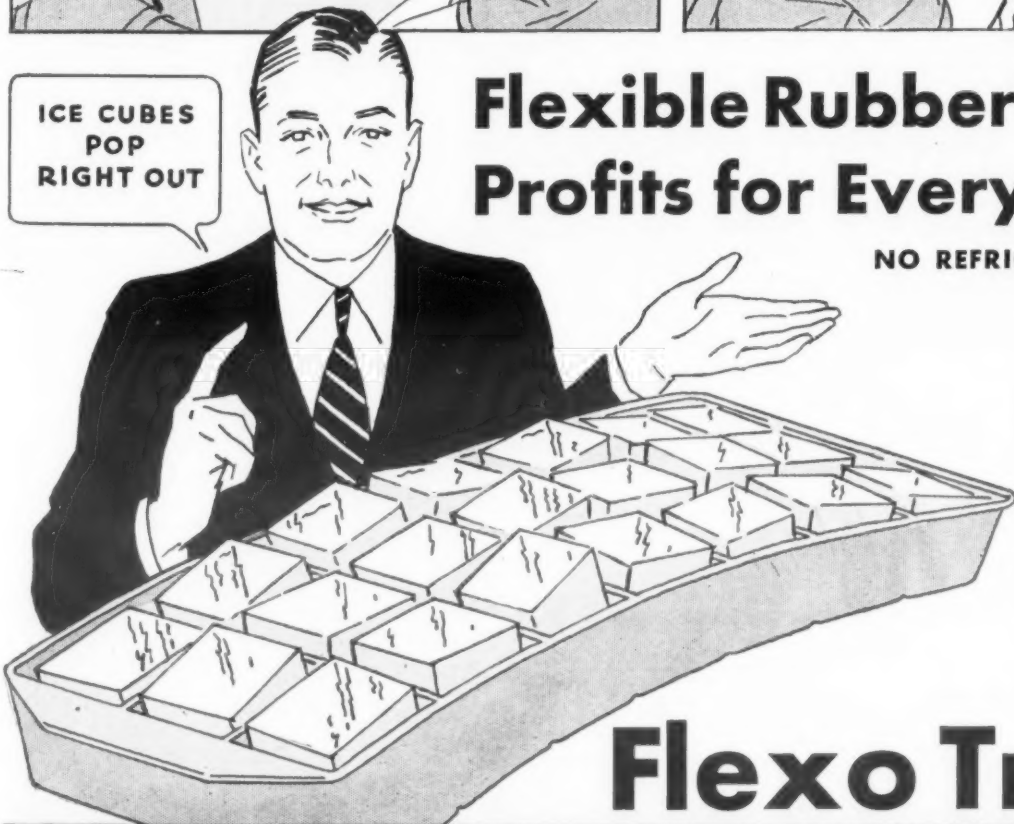
NEXT DAY

I GUESS WE'LL TAKE THIS MODEL. THOSE FLEXIBLE RUBBER ICE TRAYS ARE GREAT.



THANKS FOR THE ORDER, MR. BAKER. THIS IS A BUY YOU'LL NEVER REGRET.

ICE CUBES POP RIGHT OUT



Flexible Rubber Trays and Grids Mean Extra Profits for Everybody in Your Organization

NO REFRIGERATOR IS REALLY MODERN UNLESS IT'S EQUIPPED WITH THEM

Anybody selling automatic refrigerators can do a better job—and do it quicker, easier and more profitably—if he can back up his sales arguments with Flexible Rubber Trays and Grids. And that goes for everybody in the organization—from service man to sales manager.

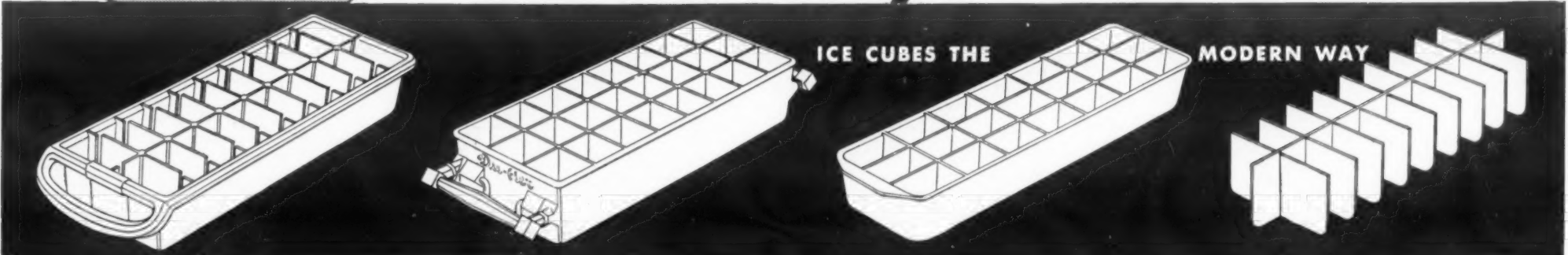
That's because the demand for these modern time and trouble savers is growing bigger every day. Already—in three short years—more than 2,000,000 have been sold! Today you can't call a refrigerator really modern unless it's equipped with Flexible Rubber Trays or Grids. As a result, all leading refrigerator manufacturers now use them as standard equipment.

This new type tray is a money-maker in more ways than one. It's a marvelous "door opener" that interests every prospect. Sold as an accessory, it adds materially to income. And often it finds a prospect that otherwise might never be located.

It's a good policy to insist that Flexible Rubber Trays and Grids be standard equipment in all the refrigerators you sell. So write to the manufacturer of your refrigerator—or direct to us—for full details.

The smart thing to do is stock Flexible Rubber Trays and Grids now. Thus you'll be sure of getting the extra profits you've been losing in the past. The Inland Manufacturing Company, Dayton, Ohio.

Flexo Trays • Flexo Grids



Quickube tray

The Quickube Tray is made exclusively for Frigidaire. It releases ice cubes instantly—one at a time or a whole trayful—with just a slight pressure at the bottom of the tray.

Duflex tray

The Duflex Tray, made only for General Electric, combines flexibility with rigidity by means of stainless steel reinforcing bars. Cubes are instantly removed at a finger touch.

Flexo tray

The Flexo Tray shown here is a flexible rubber tray, used as standard equipment by Kelvinator, Leonard, Sparks-Withington, Mayflower, Williams, Apex, and many others.

Flexo grid

This newest Inland invention combines fast freezing with easy removal of ice cubes. Flexo grids are now standard equipment on Frigidaire, General Electric and Westinghouse.

SERVICE DATA ARE GIVEN FOR MAJESTIC HERMETIC MACHINES

(Continued from Page 12, Column 5)
cuit thereby stopping the motor to prevent damage to the unit.

After a short interval, the circuit is automatically closed. If the overload condition still exists the trip again promptly breaks the circuit. The opening and closing of the circuit is repeated automatically three times.

After the third attempt to start, the overload trip will lock itself in the off position, and light the green pilot light on the escutcheon plate which is a signal that a service representative should determine and correct the cause of the overload.

The overload trip in its operation is not complicated. In case of an overload, the line current will be increased.

Thermal Cut-Out

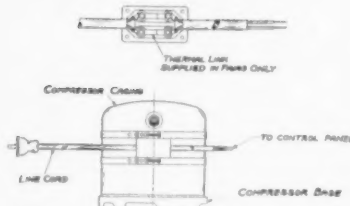


Fig. 5—Thermal cut-out links on side of compressor dome.

A small heater grid is placed in series with the line and any increase of current above normal will cause sufficient heat to be generated by the grid to cause the bi-metal strip placed directly over the grid to bend and trip the escapement.

The escapement is a spring wound device which operates whenever the bi-metal strip is flexed in either direction sufficiently to release the catch.

After the overload trip has operated

three times and definitely cut off the machine and illuminated the pilot lamp, it may be reset by means of the reset knob placed on the side of the control housing. Instructions covering the use of the reset knob are printed on the housing.

Thermal Cut-Out

The thermal cut-out is an auxiliary device for the protection of the unit against excessive temperature or pressure conditions.

It consists of two metal links connected in the line cord before it enters the control box. Each link consists of two parts connected with a low melting point alloy and mounted in a ceramic block clamped to the compressor dome. When the temperature of the dome reaches approximately 200° F., the fusible alloy melts and

Cooling Fan

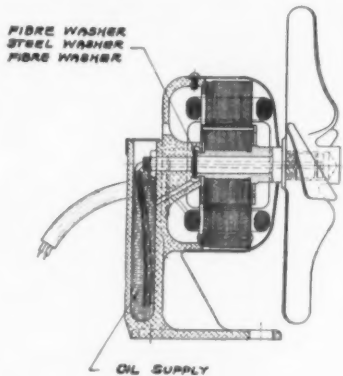


Fig. 6—Fan for models 100, 101, 102, and 103.

the links spring apart, opening the circuit (see Fig. 5).

Caution: In the event a thermal link has opened, both links must be replaced by new links supplied by the factory. Under no circumstances shall the links be resoldered or replaced with a jumper of any sort. When replacing the thermal cut-out assembly, care must be taken to insure firm contact to the dome.

Fan Motor

The fan motor, of shaded pole type, is used to drive the fan which circulates cooling air through the condenser. The purpose of the fan is to obtain the maximum efficiency in the removal of heat from the condenser (see Fig. 6).

Lubrication is provided by means of a wick and wool yarn which carry oil from a reservoir in the housing. Except in extreme cases, oiling should not be necessary more often than once every six months. Care should be taken when filling the reservoir to prevent overflow, as excessive oil may damage the rubber mountings.

Models 101 and 103

Models 101 and 103 are similar in general construction to model 100, except that model 101 has a two-tray evaporator, model 103 has two shallow trays and one deep tray, and the compressor motor on these two models is a capacitor induction motor using a transformer and condenser with a solenoid relay for shifting motor connections from starting to running.

Model No. 102

Model 102 is also fundamentally the same as model 100, except that a resistance-start induction motor is used, and the compressor is equipped with an unloader or by-pass valve to facilitate starting.

This unloader valve is assembled into the compressor, and is connected between the suction and discharge of the compressor, providing a by-pass when open. On starting, the compressor pumps against no head pressure, enabling the motor to start with practically no load and to reach its normal operating speed in short order. Then the compressor discharge operates a plunger in the unloader to close the by-pass.

'ELECTRO-SEALED' UNITS

Grigsby-Grunow's newest machines are models 205, 207, and 209, and are known as the "Electro-Sealed" series due to the fact that the dome of the compressor is electrically welded to the base to obtain greater strength.

Model 205 has a two-tray evaporator with no door or side baffle; model 207 has a four-tray evaporator with a baffle plate; and model 209 has a five-tray evaporator with an evaporator door and baffle plate. Otherwise these three machines are identical.

The compressor is fundamentally similar in design to all previous models, but has increased capacity. A fea-

Service Valve

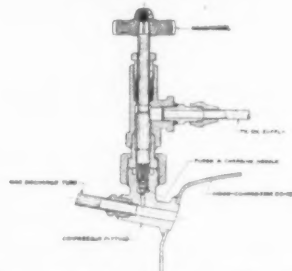


Fig. 7—This service valve has been provided on the compressor of Majestic's latest series.

ture of this machine is the combination oil-charging, purging, and gauge connection valve which has been placed on the compressor dome at the point of gas discharge (see Fig. 7). These valves are designed to facilitate the use of service gauges, and are sealed with a cap to retain the hermetically sealed feature.

The float valve has also been redesigned and placed in the path of the cool incoming air which pre-cools the

Float Valve

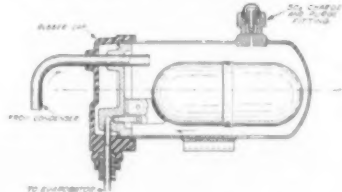


Fig. 8—Float valve of the new series is placed in path of incoming air to pre-cool refrigerant.

refrigerant before it is delivered to the evaporator.

This valve has an SO-2 charging and purging valve fitting (see cross-section in Fig. 8). Rubber shielding is placed over the header of the float valve, as well as the liquid line, to prevent condensation of moisture. An electro-magnet can be used to operate the steel float valve.

Electrical Equipment on Models 205, 207, and 209

The motor is of the electrolytic-start, induction-run type, employing a 100 mfd. starting condenser. The electrolytic condenser is connected into the starting winding of the motor only on

'Electro-Sealed' Machine

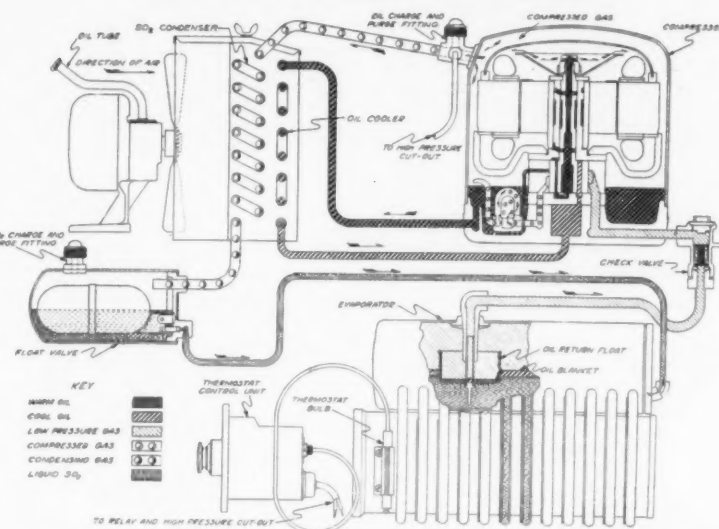


Fig. 11—Gas and oil chart of the Electro-Sealed machines (dome welded to base of compressor). Air circulation has been improved by bringing cool air first over the fan motor, thus keeping the fan motor cooler.

the start to provide high starting torque.

A relay actuated by a solenoid coil in series with the running windings, closes the starting circuit until the motor has attained proper speed. It then opens the starting winding circuit (see Fig. 9).

Auto-Reset Protector

This device consists of a combination electrical overload trip and high pressure cut-out switch. The mechanism is assembled as a part of the control panel.

The electrical overload trip consists of a bi-metal strip anchored at one end and heated, in event of an overload, by a resistance grid connected in series with common lead to the motor.

In event of an electrical overload, the free end of the bi-metal strip raises sufficiently to actuate an over-center switch which opens both sides of the line, thereby stopping the motor.

When the motor has been idle for a sufficient length of time, the bi-metal

The high pressure cut-out which operates in conjunction with the electrical overload and over-center switch, consists of a bellows actuated by the pressure in the system to move a plunger against a calibrated spring.

When the pressure reaches a predetermined value, a latch disengages the pivoted toggle arm. A spring behind the toggle arm then causes the pivots of the over-center switch to be lowered sufficiently to open the auto-reset switch contacts (see Fig. 9).

Should the high pressure cut-out function, it is necessary that a service man determine the cause of the high pressure condition before removing the control box cover to reset the switch manually.

Fan Motor

The fan motor mounting has been redesigned to provide more positive oiling. The fan is of the pusher type (see Fig. 10).

Cool air passes across the fan before passing through the warm condenser, thus keeping the fan motor cooler than was possible with the former arrangement as shown in Fig. 3.

TWIN COMPRESSOR UNITS

The twin units, as used in larger Majestic cabinets, are designated by the models Nos. 103-2 and 103-3. To distinguish between the two units, it will be noted that upon facing front of cabinet, the model No. 103-3 unit is located on the right hand side of the unit compartment, and the Model No. 103-2 is located on the left hand side of the unit compartment; they are often referred to as "right" or "left" hand units.

These units are essentially the same as two model 103 units except for special starting equipment which enables the units to start individually without exceeding 15 amperes starting current. This is accomplished by means of an automatic control placed in the electrical circuit.

Since these two units do not start simultaneously, the maximum starting current is not over 15 amperes. This is the maximum current that can be safely drawn from the average outlet. On refrigerators of the same size with a single motor, the starting current usually requires a special connection.

Controls

On the upper panel of the control box are three current relays of the Majestic solenoid type. The coil on one of these relays is in the primary or running winding circuit of the left-

(Continued on Page 15, Column 1)

'Auto-Reset Protector'

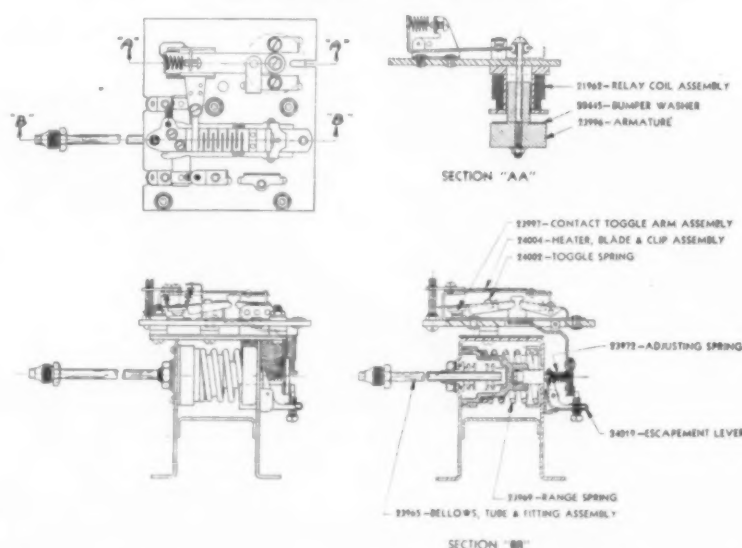
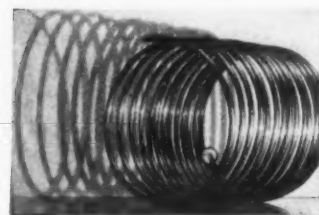
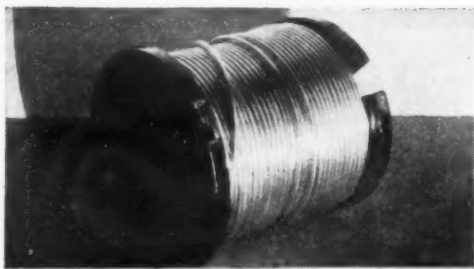


Fig. 9—Overload trip and high pressure cut-out switch which is part of Majestic's latest control panels (described above).



Coil of 60 ft.

Reel of 425 ft.



FRENCH TUBES

are available in

LONG LENGTHS

A NEWLY developed process makes possible the production of French Seamless Copper Refrigeration Tubes as large as one-half inch in diameter, in lengths up to 200 feet. Smaller tubes are available in even longer lengths. For instance, the one-quarter inch tube illustrated is 425 feet long.

These new long lengths materially reduce the risk of failure by minimizing splices. Also the longer lengths reduce scrap losses, as the exact amount required can be cut without waste at the ends.

French De Luxe Copper Refrigeration Tubes are free from oxide and foreign matter. Each coil is completely dehydrated, sealed, rigidly tested and reaches you ready for use. For manufacturers who prefer to do their own dehydrating, the French Manufacturing Company produces copper tubes dried (commercially dehydrated) with either open or closed ends.

All French Copper Refrigeration Tubes possess the requisite properties for lasting, dependable service. Their grain structure is uniform. These important qualities are in every coil because metallurgical skill, long manufacturing experience and only the best of raw material go into their production. Additional information will be furnished upon request.



THE FRENCH MANUFACTURING CO.
General Offices: Waterbury, Connecticut

FRENCH REFRIGERATION TUBES

MAJESTIC ENGINEERS DESCRIBE OPERATION OF TWIN-UNIT MODEL

(Continued from Page 14, Column 5)

hand unit. This relay operates as a motor starting relay only.

The coils of the other two relays are in series in the primary or running winding circuit of the right-hand unit. One of these relays serves as a motor starting relay for the right hand unit. The other (the relay on the right facing the cabinet) is the pilot relay for the master relay.

Operation is as follows: When the switch is turned on, or the unit plugged into a receptacle, both the coils on the right-hand unit motor starting relay and the pilot relay are energized, and their respective arms make contact with their respective upper contacts.

Completion of the circuit through the upper contact on the motor starting relay, starts the right-hand unit after the master relay closes. Completion of the circuit through the upper contact on the pilot relay energizes the coil on the master relay, closing the same.

Of the three contacts on the master relay the circuits are as follows: One set is the "lock-in" or "holding" contacts for the master relay itself, one set is in series with the starting position contacts on the motor starting relay for the right-hand unit.

This is necessary in order to prevent the right-hand unit from starting and thereby dropping out these two relays before the master relay has time to close and be "locked in" by its own holding contacts.

The third set of contacts energizes the left-hand unit through the lower contact on the pilot relay. Sequence is as follows: Starting current pulls up right hand motor starting and pilot relays, closing master relay, whereupon

on right hand unit starts, dropping both relays and starting left-hand unit.

The normally closed contact on the master relay serves the purpose of bridging the overload trip of the right-hand unit, in the event that trip has kicked off, for a sufficient length of time to supply the energizing current to the master relay, thereby starting the left-hand unit.

Thermostat Controls

The thermostat controls are identical with those employed on the Model No. 103 unit with the exception that the thermostat on the model No. 103-2 is adjusted approximately five degrees colder than the thermostat on the model No. 103-3 unit. This adjustment permits both thermostats to remain in circuit at all times.

However, the thermostat on Unit No. 103-2 will not break contact under normal operation. From the foregoing, it can readily be seen that the thermostat on the No. 103-3 unit is used as a master thermostat to control the operation of both units under normal operations.

In order to obtain the full advantages of dual-unit operation, it is essential that the units operate independently in the event that either one requires service.

Should the model No. 103-2 become inoperative, the model No. 103-3 unit will continue to cycle at normal evaporator temperatures, since it is controlled by the master thermostat which is attached to the No. 103-3 evaporator.

Should the model No. 103-3 unit become inoperative, its evaporator temperature will not be sufficiently low to open the master thermostat circuit. This condition would cause the Model No. 103-2 unit to operate continuously except for the fact that its evaporator temperature is controlled by the auxiliary thermostat.

The range of this thermostat is set approximately five degrees colder than normal in order to prevent its functioning except when the unit No. 103-3

becomes inoperative. Continuous operation of the No. 103-2 unit might possibly reduce the food compartment temperature sufficiently to freeze foods.

The correct settings of the thermostats are made at the factory. However, if for any reason the setting has been changed, it is advisable to set the thermostat on unit No. 103-2 to maximum cold position. Adjust the master thermostat (or thermostat on unit No. 103-3) to give normal operating temperatures.

Installation

The master control is attached to the right hand unit of the set. Before units are placed in cabinets, they should be tested and checked for loose or faulty connections in the wiring.

Proper procedure to test twin-units is as follows: Remove both units from packing crates and place on unit racks beside each other. Terminal board from unit model 103-2 should be securely fastened to the junction box with that of the right hand unit, model No. 103-3. Start units and observe sequence of starting.

SERVICE METHODS

Running Time

The running time of the unit depends largely upon the food load carried, amount of water frozen, room temperature, opening and closing of the refrigerator door, and the relative location of the refrigerator to a stove or radiator.

It is advisable to check the temperature at the bottom of the cabinet. With the temperature control in normal position, number 1 at average room temperature, the cabinet temperatures will be approximately 40° to 50° F.

Place a recording thermometer in the bottom of the cabinet, and get a chart of the operating temperature over a period of 24 hours. A refrigerator that is operating in a room of 90° F. will run longer than one in a room at 70° F.

Always determine the condition under which the unit is operating; nearness to stove, steam radiator, hot air register, etc. Recommend relocation of the refrigerator if necessary.

Power Consumption

The starting current should be approximately 13.5 amperes, and the running current approximately 3.0 amperes. The fan motor consumes approximately 25 watts.

The unit operating normally in an 85° room will consume approximately 230 watts. The wattage depends on the condensing pressure which in turn varies directly with the room temperature. In determining the wattage of a unit, sufficient time should be allowed after starting to allow evaporator to frost.

Thermostat for Models

Nos. 100, 101, 102, and 103

The thermostat normally will control the cabinet temperature automatically. If lower temperatures and quicker freezing are desired, they may be obtained by turning the temperature control knob in a clockwise direction.

Before making any such changes, remember that freezing of food stuffs in the cabinet may result, and furthermore the machine will consume more electricity to produce lower temperatures. Keeping these facts in mind it is well to abide by the standard setting made at the factory.

Temperature Adjustment

The temperature range is adjusted by moving the pointer. A movement of the pointer from position No. 1 to position No. 5 lowers the operating range approximately six degrees. A change may be made in the temperature range by setting pointer at No. 3, then turning the pointer as many points on the dial as is required.

Remove the pointer and replace to No. 3 position. Then turn pointer back to No. 1 or normal position. To raise the box temperature, turn the pointer to the left, and to lower the box temperature, turn the pointer to the right.

Altitude

No change in temperature settings should be required for elevations up to 3,000 ft. However, it may be necessary to raise the setting approximately three fourths degree for each additional 1,000 ft. of elevation.

CAUTION: See that the split nut on the differential screw is in the same place on the new assembly as it was on the old.

Short Cycles

Short cycles may be due to the capillary tube of the thermostat touching some point of the evaporator which is colder than the bulb.

Long cycles may be caused by the thermostat bulb being loose in the clamp.

Will Not Cut In

If the thermostat remains in the open or "off" position and if slight pressure only is necessary to move the over center spring yoke back and forth when the bulb is at room temperature, the charge has leaked out of the bellows assembly.

Thermostat Model Nos.

205, 207, and 209 Units

Mount the Type D thermostat securely to the evaporator front by inserting the switch from the back through the hole provided. Fasten the two holding screws securely. The escutcheon plate projects through the hole in the shield and is held in place by being clamped between the control and the evaporator front.

Clamp the thermostat bulb securely in the mounting clamp. Be sure the inside of the clamp is clean and that firm contact is obtained over the whole length of the bulb. If the bulb is loose in the mounting clamp, erratic operation of the thermostat may be expected, due to uneven heat transfer from cooling unit to the bulb. It is important that no part of the connecting capillary tube touches any part of the evaporator.

"Stay-Kold" Defroster

Type D thermostats are supplied with defrosting mechanism arranged (Concluded on Page 16, Column 1)

Another DELCO MOTOR Feature—

Total Absence
of End-Play
Noise



ANY belt-driven compressor requires a motor that will be free from end-play noises. The continual whipping of the belt causes a longitudinal movement of the rotor and there must be a cushion, or objectional end-play noises will develop. . . . The cork end-play take-up used on Delco motors cushions

these movements of the rotor and there is permanent protection against end-play noises. No adjustments are necessary, as the cork is located so as to receive proper lubrication, and will not wear out. . . . When selecting a motor for a new compressor, be sure to investigate the Delco cork end-play device.

Delco motors are on display at the Century of Progress

DELCO PRODUCTS CORPORATION, DAYTON, OHIO

EXPLAINS OPERATION AND ADJUSTMENT OF DEFROSTING CONTROL

(Concluded from Page 15, Column 5)

so that when the pointer of the control knob is turned to the "D" position, the unit will continue to operate but on a defrosting cycle.

As soon as defrosting has been accomplished, the control knob pointer should again be turned to the correct operating position.

As long as the control knob pointer is in any position other than "D," the defrosting device is not in service. When turned to the defrost position, an auxiliary spring is placed in position to impose an additional resistance to the bellows movement to raise the temperature at which the switch contacts close.

This defrosting spring only affects the closing temperature, and has only a slight effect upon the opening temperature. As a result, when defrosting, the cooling unit is allowed to rise to a temperature high enough to melt frost and ice before the compressor is started, yet the cooling unit temperature is brought down to approximately the same point that would be reached in normal operation.

After a few such defrosting cycles, the control knob should again be returned to the proper cold setting for normal operation. This movement of the control knob from the defrosting or "D" position to any one of the numbers on the escutcheon plate, automatically takes the defrosting device out of service so that it has no effect upon the operation of the switch.

When the operator turns the control knob to the "D" position, to begin defrosting, the defrost or drip tray should be set in place to catch the water as it drips from the evaporator coils.

Adjusting Defroster

As Type D thermostats are shipped, they are adjusted to start the compressor at a bulb temperature of 30° and stop it at 20° when the dial knob pointer is on position 1. When the pointer is moved to position D, placing the defrosting mechanism in service, the closing temperature is raised about 8° without materially affecting the opening temperature, making the operating points approximately 20°-38° (see Fig. 12).

If it is found that the operating temperatures on position 1 have changed during shipment it is only necessary to change the range adjustment, as described below, in order to return the control to the factory adjustment. No change need be made in the setting of the defroster device.

In other words, the ideal closing temperature for defrosting of 38° is obtained by superimposing a spring in the defrosting mechanism which adds 8° to the normal closing temperature of 30°, and by returning to position 1 (operating points 20°-30°) the correct defrosting temperature is automatically obtained.

Temperature Control

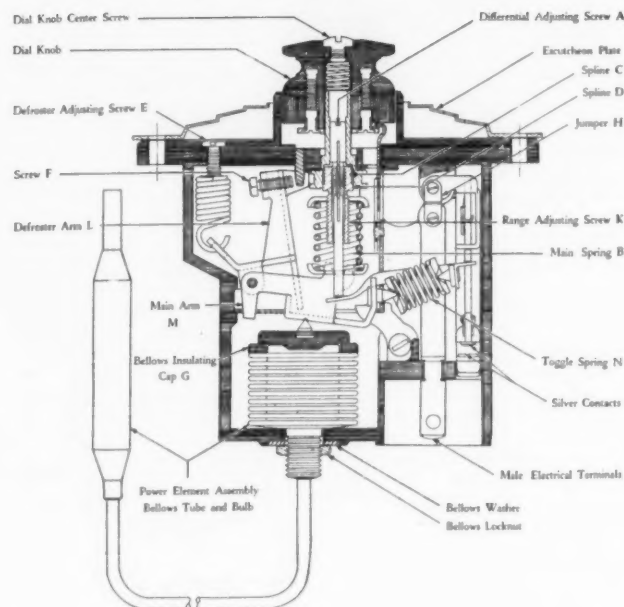


Fig. 12—Semi-automatic defrosting type of control now used by Majestic.

It should not be necessary to change the defroster adjustments when correcting the range adjustment for altitude, since the defroster device raises the closing point a fixed amount, 8°, and when the position 1 adjustment of 20°-30° is regained, the proper defrosting closing point of 38° is again available.

If it is found advisable to change the normal position 1 closing temperature adjustment, it will probably be necessary to change the defroster adjustment in order to have the defrosting temperature rise to, but not exceed 38°.

To do this, see Fig. 12. Turn adjusting screw "E" clockwise to increase the closing temperature, and counter-clockwise to lower the closing temperature. One complete turn of screw "E" represents approximately 5° change.

To make adjustments turn this screw only a part of a turn and then check results, being careful not to turn so far as to throw the mechanism entirely out of adjustment.

CAUTION: Under no circumstances should screw "F" be changed as this might interfere with the proper operation of the thermostat. This is a factory adjustment which must not be changed.

Adjusting for Box Temperature

Normal or factory setting is with the adjusting knob pointer in the No. 1 position. By rotating the adjusting knob to the right (clockwise) the range of the switch, and therefore the box temperature, will be lowered.

A movement of the control knob from No. 1 to No. 9 position lowers the operating temperature approximately 8°. This "Quick Freeze" or cold control adjustment is for use between numbers 1 and 9 inclusive, and does not apply for position "D".

Range Adjustment

If it is desired to raise or lower the temperature at which the switch operates for any one position of the control knob pointer, this can be done as follows (see Fig. 12):

To raise the operating temperature, turn the control knob to position No. 1, remove control knob center screw, insert small screw driver as shown in "A", and push firmly until you feel the main spring "B" compress.

This removes spline "C" from mating knob spline "D" and permits free rotation of knob. Now turn knob to right (clockwise) as far as desired, then release pressure on screw driver and allow spline "C" to again seat itself as shown in "B".

Turn knob back and forth a few times to insure spline cogs are properly seated. Replace center knob screw. Then turn knob pointer back to position No. 1, and the control will be operating at higher temperatures. The space between each number on the escutcheon plate represents approximately 1°.

To lower operating temperature, turn control knob from the No. 1 position as far to the right (clockwise) as it is desired to decrease the operating temperature. Insert screw driver, disengage spline, and turn control knob back to No. 1 position. Allow spline to re-engage, and the switch will now be controlling at lower operating temperatures.

It will be noted that the method of lowering the range differs slightly from the instructions for raising the range. The reference point is in each case position 1. To raise range, push screw driver, turn right desired amount, release screw driver, return to position 1. To lower range, turn clockwise from position 1 desired amount, push screw driver, turn left to position 1, release screw driver.

Do not press on the control knob when pushing with the screw driver. The knob should be free to be turned as desired.

Differential Adjustment

The differential is the difference between the opening and closing temperatures of the control when the dial knob pointer is on any number (not on position D). (See Fig. 12.)

No attempt should be made to decrease or narrow the differential unless it is greater than 10°. To change the differential, remove center control knob screw and insert screw driver, as shown in Fig. 12. The point of the screw driver should be inserted in the slot of the differential adjusting screw "A".

To widen or increase the differential, turn to left (counter-clockwise). One complete turn of differential adjusting screw "A" changes the differential approximately 3°. Remove screw driver and replace center knob screw. To decrease or narrow the differential, turn screw "A" to right (clockwise).

Changing the differential does not affect the closing point, all changes taking place at the opening point. Do not turn screw "A" more than two complete turns.

Examples of Adjustments

Standard factory settings for the dial knob pointer in position 1 are 20°-30°. Let us assume that it is desired to change the switch adjustments from this normal setting to 14°-26°, still in position 1.

This example will illustrate how this change from standard or from any other actual setting should be made. Proceed as follows:

Since the differential adjuster only changes the opening point, it is first necessary to adjust the switch to secure the desired closing point. To do this, follow instructions in "Range Adjustment" above, lowering both operating points 4° or approximately four divisions on the escutcheon plate. The control will now operate at 16°-26°.

Whereas the factory adjustment is approximately 10° differential, we now desire a 12° differential so that it is necessary to widen the differential approximately 2°.

To do this follow instructions in "Differential Adjustment" above, turning the differential adjusting screw "A" to the left (counter-clockwise) approximately two-thirds of a turn. The switch will now operate at 14°-26°.

With this lower setting the closing temperature when the control knob is thrown to the defrost position will be too low, as by bringing the defrosting mechanism into play the temperature at which the switch closes is still raised 8°, making the operating points for the D position approximately 14°-34°.

It is therefore necessary to increase the defrost closing adjustment 4° by turning adjusting screw "E" to right (clockwise) about four-fifths of a turn. See adjusting Defroster, above. The control will now be operating at the desired temperature.

Will Not Cut In

The cutting in of the thermostat will not start the motor if there is an open circuit in the wiring.

The switch will not cut in if the bellows has lost its charge. This may be determined by depressing the bellows with the thumbs on the bellows insulating cap (Fig. 12) when the bulb is at room temperature. If only slight pressure is required the bellows has lost its charge.

GENERAL SERVICE PRACTICE

Pressure Gauge Connections

To obtain the head pressure reading of models 100, 101, 102, and 103, install pressure gauge on oil charging line extending from base of compressor.

Pinch off oil line carefully. Cut off end of tubing leaving pinch-off tool in place. Install 1/4-in. flare nut and attach shut-off valve and pressure gauge. Remove tool and carefully open pinch-off until pressure is indicated on gauge.

To remove valve and gauge, pinch off line and cut off flared end of tube. Seal end of tube with solder and remove tool.

In case it becomes necessary to obtain the vacuum reading on the low side, install compound pressure-vacuum gauge on charging line at rear of evaporator. Proceed as outlined above.

To obtain head pressure reading on models 205, 207, and 209, install service valve and gauge on the charge fitting located on the float valve chamber.

To install service valve, remove sealing cap with soldering iron. Install valve and tighten securely. Attach gauge and open valve needle slightly. After valve has been removed, replace sealing cap and resolder.

Discharging Leaky Units

Before returning a leaky unit, discharge the system to prevent escape of SO₂ or oil during shipment. To discharge models 100, 101, 102, and 103, attach hand valve to oil charge line as explained under "Pressure Gauge Connections."

After the unit has been discharged thoroughly pinch off line to prevent corrosion. The unit can be kept in an upright position while discharging.

To discharge models 205, 207, and 209 attach service valve to dome charging fitting. Lay unit on side, so that it rests on the edge of the mounting plate with the SO₂ condenser nearest the floor. This will discharge the oil completely. After the unit has been

discharged the needle valve should be closed.

Purging Units

To purge models 100, 101, 102, and 103, unsolder the cap on the purge fitting located at the SO₂ condenser. Allow unit to stand idle for approximately 15 minutes. Loosen purge needle slightly to allow the air to escape.

Use a swab saturated in 28 per cent ammonia to determine when air has escaped and sulphur dioxide is discharging. After the purging has been accomplished, reseal needle and resolder cap.

To purge models 205, 207, and 209 unsolder caps on charge fittings, located on top of the float valve and dome. Purge dome fitting first, followed by float fitting. Use ammonia to determine when air has escaped. In all cases resolder cap to prevent leaks. Avoid use of excessive solder and determine that vent hole is closed.

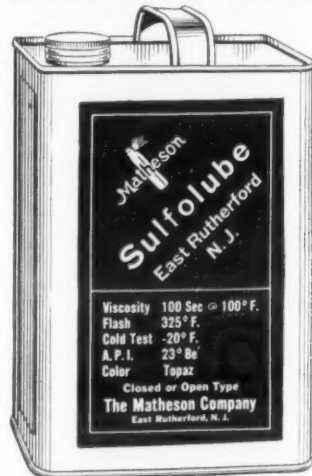
Removing Unit from Cabinet

Whenever it becomes necessary to remove a unit from the cabinet, a unit lifter and bar or hoist must be used in order to prevent damage to the unit. Under no condition should a unit be removed by attaching a rope or strap to the tubes.

NEW SERVICE COMPANY

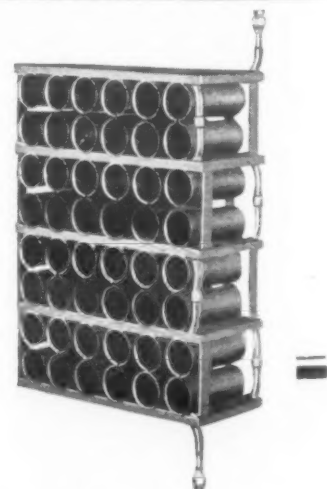
PITTSBURGH—Allegheny Refrigeration Engineering Co. has been organized at 1141 Penn Ave. here for designing, servicing, and installing electric refrigeration systems. Heading the new organization is John A. Kollins, formerly manager and chief engineer of the Pittsburgh Refrigeration Co.

The Matheson Co.
East Rutherford, N.J.
REFRIGERATOR



— OILS —

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Send for detailed information and prices and win greater sales with the new LARKIN Bottled Beer Coil.

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Refrigerating Corporation
Originator and Manufacturers
ATLANTA, GA., U.S.A.

U.S. PATENT No. 1,774,335.

Great Demand For LARKIN BOTTLED BEER COIL

BOTTLED beer can now be sold at just the desired temperature. The new LARKIN Vertical Surface Coil with brass spring slotted sleeves keeps the bottles in constant contact with the coils and the bell tops avoid any scraping or tearing of the labels. Sold in units holding one case of twenty-four bottles or larger. These Larkin coils are adjustable to any low temperature refrigeration system.



MODERN CABINET DESIGN

Demands Massive, Deep Drawn Steel Stampings

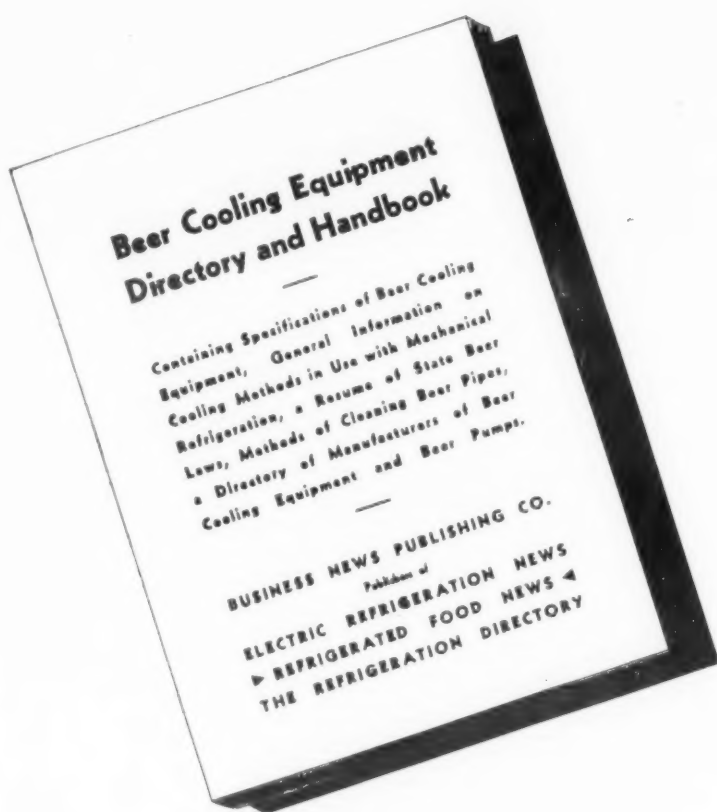
Give yourself complete freedom in designing refrigerator cabinets with massive, deep drawn stampings that add beauty and new features to meet modern trends. Our enormous equipment produces large, uniform, completely press-formed shapes of accurate dimensions at low cost. We specialize on tops, doors, side panels, door liners, etc.—ready for assembly with other parts fabricated in your plant. Now serving several leading manufacturers.

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TRUSCON STEEL COMPANY
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TRUSCON

ANNOUNCING an Added Service to Advertisers in the Beer Cooling Equipment Directory & Handbook



As a part of our program of cooperation with President Roosevelt in promoting the aims and purposes of the National Recovery Administration, we have decided to delay closing the forms for the new Beer Cooling Equipment Directory and Handbook for a period of three weeks (that is, until August 31), in order to give all manufacturers sufficient time to comply with the terms of the President's re-employment agreement and display the Blue Eagle insignia in their advertisements.

Since this new Directory will be in service for a considerable time, and since it will reach dealers and prospective buyers of equipment at a time when the attention of the public is being concentrated upon the Blue Eagle as a mark of distinction designed to influence the buying habits of the entire country, it appears highly desirable in the interests of all concerned that

provision be made for the proper recognition of this important movement.

Notice is hereby given to advertisers that we are authorized to reproduce the emblem in the advertisement of any employer *provided such employer files with this publication a written statement that he has signed the President's agreement and affixes the official NRA sticker thereto.*

In order to facilitate the required action, a convenient form will be mailed to all advertisers for filing the statement. Blue Eagle cuts will be furnished without charge to be inserted in advertisements for which copy or plates have already been transmitted to us. As a further service, we will print the insignia in *blue* in this Directory, if desired by the advertiser, *with no charge whatever for the extra color printing.*

The new Beer Cooling Equipment Directory and Handbook will give the advertisers of

Beer Coolers

Beer Pumps

Beer Pipe Cleaners

Bar Fixtures

Compressors

Cooling Coils

Parts, Supplies and Materials

a year's contact with 5,000 manufacturers, distributors and dealers. This Directory and Handbook will be used until the information in it is out of date.

If you have not received a copy of the sample dummy of the new Beer Cooling Equipment Directory and Handbook, write for it. Advertising rate \$100 per page.

The new Beer Cooling Equipment Directory and Handbook is being issued to fill the big demand on the part of distributors and dealers for authentic, educational information on mechanical beer cooling.

When Electric Refrigeration News printed the specifications on beer cooling equipment in the July 5 issue, there was an immediate demand for extra copies. Many dealers asked to have the specifications reprinted on sheets for their data books. All of which was only added evidence that the field needed more information on this important subject which is concerned with a big new source of profitable business.

Since the first announcement of this Directory and Handbook orders have been coming at a rapid rate, and this advance sale is being increased every day—more evidence of the demand for information which your advertising will help supply.

The new Directory and Handbook will supply this demand with 75 to 100 pages of reference data including

A complete resume of the state beer laws.

General information on the application of mechanical refrigeration to the various methods employed in cooling beer.

Information on cleaning beer pipes.

Proper beer temperatures.

Complete specifications on draft beer and bottle coolers.

A directory of the manufacturers of beer coolers, beer pumps, compressors, beer faucets, beer pipe cleaners, beer taps, air pressure regulations, fittings, etc.

Reserve your space now. The extended closing date for advertising forms is Aug. 31.

BUSINESS NEWS PUBLISHING CO., 550 Maccabees Bldg., Detroit, Mich.

PATENTS

ISSUED AUG. 1, 1933

1,920,184. CARTON FOR FROZEN FOOD PRODUCTS. Alfred B. Brackett, Swampscott, Mass., assignor to Frosted Foods Co., Inc., Dover, Del., a Corporation of Delaware. Application Dec. 1, 1932. Serial No. 645,204. 6 Claims. (Cl. 229-31.)

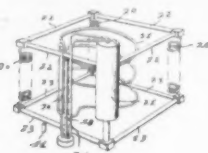
1. A carton for frozen food products, comprising a box-like body having exterior tucks at its ends for receiving cover-holding flaps, a cover attached to one edge of the body and including top, side and end panels and corner portions connected to the side and end panels, the cover being scored along the junction of the top and side panels whereby to permit the side panel to be folded against the adjacent side of the body and each of said corner portions being scored diagonally and along its edges whereby it may be folded beneath its end panel, the scorings at the junction of the end panels and said corner portions diverging outwardly away from the outer edge of the side panel thereby tending to draw the side panel close to the body of the carton when the end panels are folded against the body, and holding flaps carried by the end panels for engaging within said tucks.

1,920,359. VESSEL AND TRACK CONSTRUCTION FOR REFRIGERATORS. Alvie C. Cimmel, Hartford City, Ind. Application July 21, 1932. Serial No. 623,835. 12 Claims. (Cl. 221-68.)

1. In combination with a pair of spaced substantially horizontal trackways, a receptacle slidably and tiltably supported thereon and partially depending between the same, including a peripheral body wall positioned between the trackways and terminating in a relatively large upwardly directed mouth, opposite substantially flat sides, and connections between the sides and body, said connections being arranged for supporting the receptacle upon the trackway and being a concave fillet with a comparatively sharp inner squared corner.

1,920,462. CARBONATED BEVERAGE REFRIGERATING APPARATUS. William E. Doughty, Detroit, Mich., assignor to James Vernon Co., Detroit, Mich., a Corporation of Michigan. Application July 27, 1931. Serial No. 553,448. 7 Claims. (Cl. 62-126.)

2. In a refrigerating apparatus of the class described, upper and lower headers



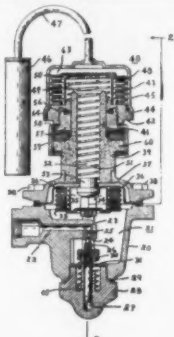
1,920,462

encircling a space adapted to receive a container, an upright tank connected at its upper and lower ends respectively to said headers, an upright coil having its ends connected respectively to said upper and lower headers, and means for maintaining liquid refrigerant at a predetermined level in said tank, for the purpose set forth.

1,920,505. REFRIGERATING APPARATUS. Charles F. Henney and Daniel L. Kaufman, Dayton, Ohio, assignors to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Application Feb. 28, 1931. Serial No. 519,109. 13 Claims. (Cl. 236-92.)

4. An expansion valve including a valve chamber, inlet and outlet means for said valve chamber, a valve for controlling the

inlet means, a member extending from said valve chamber, thermostatic means for controlling the operation of said valve



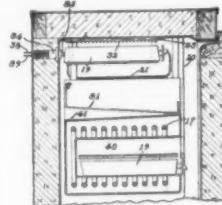
1,920,505

including a cap member having a bellows therein sealed to the cap at its lower edges, said cap member being slidably mounted upon said first mentioned member, means operatively connecting said bellows and said valve, and means for sliding said cap member upon said first mentioned member to adjust said thermostatic means.

7. A sealed clamping means including a pair of members having enclosed cooperating clamping shoulders and cooperating threaded portions and means for conducting molten solder adjacent said clamping shoulders.

1,920,508. REFRIGERATING APPARATUS. Harry B. Hull, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Application Feb. 29, 1928. Serial No. 258,004. 16 Claims. (Cl. 62-113.)

1. A refrigerator comprising a cabinet, a refrigerating element adapted to cool said cabinet, a tray adapted to contain a



1,920,508

substance to be concealed by said refrigerating element, a controllable heat exchange means within said cabinet for heating the concealed substance, means for supporting said tray in heat exchange relation with said first means for releasing the concealed substance and means in heat exchange relation with the refrigerating element for receiving and storing the released substance.

1,920,515. HEAT EXCHANGE CONTAINERS AND BATTERIES THEREOF. John E. Marsden, Philadelphia, Pa. Application Aug. 27, 1932. Serial No. 630,662. 19 Claims. (Cl. 62-89.)

1. A closed container consisting of a heat conducting material, said container having a polygonal cross section, all sides of the container having longitudinal and transverse ribs terminating in spaced relation to each other to provide openings therebetween, whereby a battery consisting of a plurality of said containers disposed inside by side contact with each other includes channels extending through said battery.

1,920,526. ICE FORMING DEVICE. Harry B. Rudd, Douglaston, N. Y. Application November 17, 1928. Serial No. 320,060. 19 Claims. (Cl. 62-121.)

1. Ice forming apparatus comprising a base plate, an outer sleeve on said base plate, a top ring seating on said sleeve,

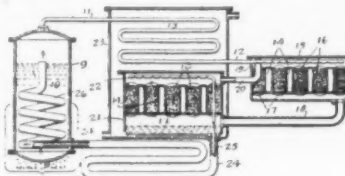
a ring of heat insulation seating on said top ring, a receptacle seating on said insulation ring, a sleeve of insulation lining said outer sleeve, a cylindrical coil of pipe within said insulation sleeve, an inner sleeve of insulation within said coil, and a member within said inner sleeve and connecting said base plate and receptacle to hold the elements assembled, said pipe communicating with said receptacle.

1,920,570. DISTRIBUTIVE REFRIGERATING EVAPORATOR. Benjamin F. Kuhaugh, Louisville, Ky., assignor to Henry Vogt Machine Co., Louisville, Ky., a Corporation of Kentucky. Application Feb. 4, 1933. Serial No. 655,267. 14 Claims. (Cl. 62-141.)

1. Refrigerating evaporator comprising a conduit arranged serially in superposed tiers, constituted by substantially horizontal limbs with end connections, jackets individual to said limbs and forming therewith evaporator chambers, means for supplying liquid refrigerant serially to said chambers beginning with the uppermost chamber, said means comprising in part conduits interconnecting said chambers and arranged to determine a liquid level in each of said chambers, and means individual to each chamber for conducting away the expanded gas originating in each chamber.

1,920,612. REFRIGERATION. Baltzar Carl von Platen and Carl Georg Munter, Stockholm, Sweden, assignors to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Application June 17, 1926. Serial No. 116,751. Renewed March 2, 1932. 12 Claims. (Cl. 62-119.5.)

1. The method of refrigerating which comprises separating methyl-amine in gaseous form from a solution thereof, con-



1,920,612

densing the methyl-amine, introducing the condensed methyl-amine into the presence of an auxiliary agent, and producing complementary diffusion of the methyl-amine and the auxiliary agent, absorbing the methyl-amine into solution and again separating methyl-amine from solution.

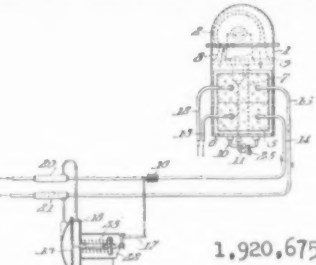
7. A method of refrigerating which comprises separating an amine in gaseous form from a solution thereof, condensing the amine, mixing the condensed amine with liquid isobutane, evaporating the liquid mixture, absorbing the amine into solution separating the isobutane from the solution, condensing the isobutane, again separating the amine from solution and condensing the same, and again mixing the amine and isobutane condensates.

1,920,642. COOLING TOWER CONSTRUCTION. William J. Hoffman, St. Louis, Mo., assignor to Lillie Hoffman Cooling Towers, Inc., St. Louis, Mo., a Corporation of Missouri. Application Oct. 18, 1928. Serial No. 400,503. 8 Claims. (Cl. 20-0.5.)

8. In a cooling tower construction, a louvre having right angle corners and comprising corner uprights, an outwardly and upwardly diagonally diverging post extended from each upright, and side boards having end engagement with said posts.

1,920,675. REFRIGERATING MACHINE. Adolph Baumann, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint stock company. Application May 7, 1932. Serial No. 505,875, and in Germany Dec. 20, 1930. 8 Claims. (Cl. 62-3.)

1. A refrigerating machine of the type including a water-cooled condenser, and means for controlling the quantity of



1,920,675

water circulated through said condenser, said controlling means including an adjustable element for regulating the flow of the cooling water, and means including thermostats at the water inlet to and the water exit from the condenser for adjusting said control means to maintain a substantially constant difference between the temperature of the water flowing to and the water leaving said condenser.

1,920,681. CONDENSING APPARATUS. Jean de Chamberlat, Treliassac, France. Application March 13, 1931. Serial No. 522,383, and in France Jan. 21, 1931. 10 Claims. (Cl. 62-140.)

1. A condensing apparatus for use with a refrigerating machine, for collecting the humidity of the atmosphere, comprising in combination, a cylinder provided with longitudinal grooves, a nest of longitudinal tubes acting as an evaporator for said machine and disposed in contact with said cylinder, and means for collecting the water formed on the walls of said cylinder.

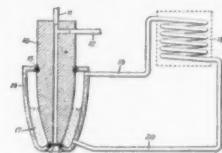
1,920,682. METHOD AND DEVICE FOR COOLING GASES BY CONTACT WITH A LIQUID. Humbert Frossard de Saugy, Paris, France. Application June 5, 1931. Serial No. 542,402, and in France June 16, 1930. 3 Claims. (Cl. 261-11.)

1. A method of cooling the air of enclosures by contact with a liquid, consisting in conducting said liquid through an enclosure in substantially vertical, downward direction along cooling surfaces about half way down inside the enclosure and thereupon causing the liquid to trickle "cascade-wise" in a thin stream in the lower half of the enclosure along condensing surfaces in order to carry along the sur-

rounding air by adherence and without relative velocity between the air and the liquid thereby obtaining an exchange of calories between said two fluids without any substantial evaporation of the liquid.

1,920,769. REFRIGERATED BURNER NOZZLE. Alexander R. Stevenson, Jr., Schnectady, N. Y., assignor to General Electric Company, a Corporation of New York. Application Nov. 22, 1930. Serial No. 497,519. 5 Claims. (Cl. 158-73.)

2. In an oil burner furnace, a nozzle having an opening for introducing fuel oil into the furnace, a cooling device for said



1,920,769

nozzle including a sealed annular container surrounding the nozzle for maintaining a liquid having a boiling point below the carbonization temperature of the fuel oil in heat-conducting relation with the nozzle adjacent said opening, and a condenser for vaporized fluid communicating with said casing and disposed above the level of liquid in the path of the combustion air for the burner.

1,920,845. REFRIGERATING SYSTEM. Christian Dantszen, Schenectady, N. Y., assignor to General Electric Co., a Corporation of New York. Application Oct. 26, 1932. Serial No. 639,606. 12 Claims. (Cl. 62-178.)

Refrigerant—Methyl Formate, Lubricant—Refined Mineral Oil and Lard Oil.

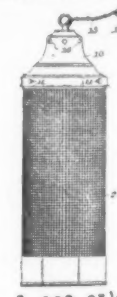
8. A method of reducing the production of non-condensable gaseous decomposition products in a refrigerating system which comprises circulating a few per cent by weight of a glyceride of a fatty acid through said system in contact with the refrigerant therein.

1,920,856. COOLING DEVICE. Arturo Gonzalez and Jose M. Gonzalez, Habana, Cuba. Application July 11, 1932. Serial No. 621,990. 6 Claims. (Cl. 62-99.)

6. In a device of the class described, a chest having an opening, a door for closing the opening, two horizontal open members disposed in the chest, one above the other behind the opening, a pipe having a coil disposed on one of the members and a drawer disposed on the other member for removal through the opening, the drawer being open at its sides and an open bottom across which are disposed supporting members spaced apart.

1,920,914. DEHUMIDIFIER. George E. Poggel, Louisville, Ky., assignor to Advance Manufacturing Co., Louisville, Ky., a Corporation of Kentucky. Application April 29, 1929. Serial No. 359,063. 2 Claims. (Cl. 183-4.)

1. In a dehumidifier, the combination with an outer shell of open-work construction, of an inner shell of open-work con-



1,920,914

struction comprising inner and outer walls each having interstices, and an open air circulating space within the confines of the inner wall which is in air communication with the space between the said inner and outer walls, dehumidifying chemicals contained within the space between the inner and outer walls of the inner shell, and heating means within the said open air space which circulates the air which enters the open air circulating space within the confines of the inner wall of the inner shell, and thereby causes the air outside the dehumidifier to travel through the chemicals and to circulate past them.

1,920,915. DEHUMIDIFIER. George E. Poggel, Louisville, Ky., assignor to Advance Manufacturing Co., Louisville, Ky., a Corporation of Kentucky. Application Feb. 25, 1930. Serial No. 431,214. 4 Claims. (Cl. 183-4.)

3. In a dehumidifier, the combination with an air-previous container for holding and exposing chemicals having moisture-absorbing property, of a chemical-holding reservoir adapted for feeding chemicals to the container, a moisture-precipitating fabric surrounding the air-previous chamber, and means controlling the feed of the chemicals from the reservoir to the container.

REFRIGERATOR MATERIALS INTRODUCED BY COLVULC

NORFOLK DOWNS, Mass.—Colvulc Rubber Co., manufacturer of latex compounds, is in production on several products for use by electric refrigerator manufacturers, according to J. L. Hallett of the Colvulc organization. First is a plastic rubber compound which may be used like putty in setting glass on display cabinets. The substance is self-curing, and forms an elastic air- and water-tight seal, says Mr. Hallett.

Another product is a liquid rubber for use in sealing insulation slabs, or as a protective coating against corrosion from refrigerant gas. The third is a compound for protecting lacquered or enameled surfaces of refrigerators from damage while in transit.

CHEMICAL SPECIALTY ASSOCIATION FORMED

NEW YORK CITY—The National Association of Chemical Specialty Manufacturers has been formed as a non-profit membership association to provide for firms in that general industry under the National Industrial Recovery Act. Headquarters are at 305 Washington St., Brooklyn.

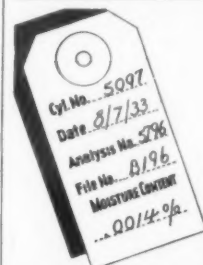
At a meeting or representatives of various phases of the industry it was agreed that, while the field of manufacture is a broad one, there is such close community of interest that it should be represented as a unit.

A general code for the industry has been drafted by a committee and copies are available for firms interested. It is hoped to have the general code approved and in effect about Sept. 1, with sub-codes for many divisions of the field such as alkaline cleaners, cleaning solvents, plumbing specialties, household ammonia, furniture polish, automobile polish, metal polish, soap specialties, wax products, adhesives, inks, shoe specialties, greases and special lubricants, miscellaneous automotive specialties and miscellaneous household specialties.

A member of the association may belong to as many of these groups as apply to the products he makes.

FEDDERS OPENS BRANCH IN CHICAGO

CHICAGO—Fedders Mfg. Co. of Buffalo has just opened a new branch office at 603 West Washington Blvd. here. Marc Shantz, formerly a member of the company's field force, has been appointed manager of the new outlet, which will carry a complete stock of Fedders products.



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It's your guarantee of pure, clean, bone-dry, refrigeration grade sulphur dioxide.

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You can't go wrong with Ansul Sulphur Dioxide. The little red tag takes away the element of chance and guarantees your satisfaction.

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SELL!

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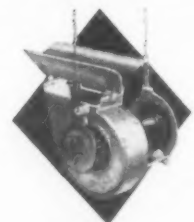
The only complete line—saves space—saves food—saves money

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THE BROWN CORP.

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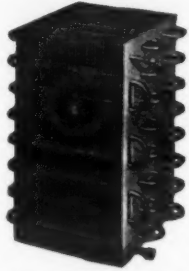
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and Handles, molded of
Bakelite, Durez, Plaskon or Beetle resist
rust, moisture, corrosion and most acids.

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TO THE REFRIGERATION INDUSTRY

A NEW FIN COIL by PEERLESS

Wedge-locked and edge-locked aluminum fins on tinned copper tubing for methyl chloride, sulphur dioxide, F-12, etc.—aluminum tubing for ammonia. Absolute Metal to Metal Contact. A Superior Coil in which Soldered Return Bends have been eliminated. Priced to meet 1933 conditions. Write—Wire for Catalog.



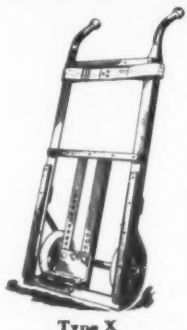
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Five Models ranging from 20 to 80 lbs. I.M.E. per hour

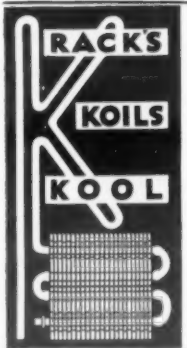
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THE TRADEMARK OF FOUR PACE SETTERS IN COIL EFFICIENCY

SUR-E-FEX Fin Coils
FAN-E-FEX Diffusing Units
HUM-E-FEX Non-Dehydrating Coils
SAN-E-FEX Air-Conditioning Units

SEND FOR NEW CATALOG DESCRIBING
THESE SENSATIONAL DEVELOPMENTS

REFRIGERATION APPLIANCES, INC.
H. J. KRACKOWIZER, Pres.
1342 WEST LAKE ST., CHICAGO

Special Trial Subscription Order

Business News Publishing Co.

550 Maccabees Bldg., Detroit, Mich.

.....1933

Enclosed find \$1.00. Please enter my subscription to ELECTRIC REFRIGERATION NEWS, the weekly newspaper of the industry, for a 17-week trial period and send me a FREE COPY of the new BEER COOLING EQUIPMENT DIRECTORY and HANDBOOK to be issued Sept. 1.

Name

Company

Street Address

City and State

☐ If you are already a subscriber to ELECTRIC REFRIGERATION NEWS, check this square and your term will be extended for 17 weeks.

ERN 8-16-33

QUESTIONS

Sheet Metal for Cabinets

No. 1331 (Export Agency, New York) — "Our principals in Argentina manufacture domestic refrigerator cabinets. Lately they have examined a cabinet brought out by the Universal Cooler Corp., and they find that the sheet employed is neither iron nor of steel. Judging from its grayish color, it is some sort of an alloy."

"It is our understanding that this type of sheet does not rust at all, and that it is soft enough to be easily painted. We understand that this type of alloy is commonly employed, but we cannot ascertain definitely what it is composed of."

"Would you be kind enough to let us know about this by return mail so that we may secure quotations on a similar kind of material?"

Answer—The metal used in fabrication of Universal Cooler cabinets is not an alloy, but furniture steel, a common material for cabinet construction. The grayish color noted by your Argentine principals is probably the gray priming coat which appears on the inside of the cabinet.

For sheet steel to be used in cabinet manufacture, get in touch with the Superior Sheet Steel Co., Canton, Ohio. For steel cabinet parts, all stamped and pressed for cabinet construction, communicate with the Pressed Steel Division of the Truscon Steel Co., 6100 Truscon Ave., Cleveland, Ohio.

Welsbach

No. 1332—"Will you please inform me just as soon as possible whether or not the manufacture of Welsbach refrigerators has been entirely discontinued, or whether the Welsbach Co. was taken over by another organization, and are these refrigerators still being made?"

Answer—Something over a year ago the Welsbach Co. discontinued, at least temporarily, the manufacture of electric refrigerators. Since then the company has been manufacturing replacement parts and accessories so that refrigerators sold before that time will not be without parts when required. The company continues to manufacture its standard line of hot water heaters, etc.

Lassen's Address

No. 1333 (Service company, Washington)—"Can you tell us Mr. Manuel Lassen's present address? He has been a member of the American Society of Refrigerating Engineers, and prominent in refrigeration engineering circles for years."

Answer—Address him at 14936 Welling Ave., Detroit, Mich.

Forced Convection Beer Cooler

No. 1334 (Distributor, California)—"Some firm in the East is building a beer-cooling cabinet, and is cooling it with a forced convection coil. We are interested in this coil, and would like the name and address of this firm."

Answer—Gibson Electric Refrigerator Corp., Greenville, Mich., has just introduced a beer bottle cooler using a small forced convection cooling coil.

Forced convection is also being used to cool barreled beer in coolers of the walk-in type. Manufacturers of this type of cooler include:

Carrier Products Corp.
850 Frelinghuysen Ave., Newark, N. J.
Bush Mfg. Co.
100 Wellington St., Hartford, Conn.
Kelvinator Corp.
14250 Plymouth Road, Detroit, Mich.
Larkin Refrigerating Corp., Atlanta, Ga.
Refrigeration Appliances, Inc.
1342 W. Lake St., Chicago, Ill.
Serval Sales, Inc., Evansville, Ind.

Ice Cream Freezer

No. 1335 (Distributor, South Carolina)—"Kindly advise where we can obtain an electric ice cream mixer which is used in connection with a household electric refrigerator?"

CONVICTS ARE STARS OF NEW SPARTON PROGRAM

JACKSON, Mich.—Musical talent of three prison convicts is being employed by the Sparks-Withington Co., of this city to give a "something new, something different" feature to the company's current series of radio programs advertising Sparton electric refrigerators and radios.

The programs are said to be the first commercial broadcasts ever made from within the walls of a prison. The entertainers are an organist, a vocalist, and a violinist—all inmates of Jackson's Michigan State Prison. Their selections, played and sung in the prison chapel, are broadcast every Tuesday night by remote control through station CKLW of Detroit.

Names of the talented inmates are not divulged during the programs. Instead, they are announced by their official prison numbers. The program is being billed in newspaper radio columns as that of the "Mystery Organist."

The program was tested over a four-week period.

ARTIST GIBSON WILL PICK '33 GIBSON GIRL

GREENVILLE, Mich. — Charles Dana Gibson, founder and publisher for many years of Life magazine, and originator of the "gay nineties" Gibson girl pictures, is to be final judge in the nation-wide search for the 1933 Gibson girl being conducted through its selling forces by Gibson Electric Refrigerator Corp. here.

In addition to the main prize of \$1,000 and free trip to A Century of Progress in Chicago for the winner and a companion, zone prizes of \$250 will be given winners in different parts of the country. Option of a trip to another American resort, or of a week as the guest of Paramount Pictures Corp. in Hollywood with a screen test, is to be offered the Gibson girl if she has already attended the World's Fair.

Herbert E. Young, Eastern division sales manager, reports a hook-up with over 200 New York theaters cooperating with Bruno-New York, Inc., distributor in that city, to advertise the contest. Film trailers, program announcements, and lobby displays will be used.

Krich Distributing Co. of Newark has arranged with the two largest parks in New Jersey, Olympic Park at Irvington and Columbia Amusement Park opposite the New York 42nd St. ferry, to enter park visitors in the contest.

The Fox theater in St. Louis in conjunction with a local newspaper is to hold the final judging in that area on its stage. Artophone Corp. of St. Louis, distributor, made the arrangements.

Similar advertisement is being carried out in Cincinnati under the auspices of the Tri-State Distributing Corp. there. Street parades featuring the old and new Gibson girl types are also a part of the Cincinnati campaign.

SMALL-TOWN BUSINESS SHOWING REAL UPTURN

NEW YORK CITY—That small-town business is definitely on the upturn is the belief of 290 bankers from as many towns who replied to a questionnaire sent out by The Household Magazine here. One thousand questionnaires were sent out, 363 replies received, and of these, 80 per cent, or 290, took a bright view of the future.

"A continued improvement in prices of farm products will be a strong element in bringing our country back to normalcy," was the opinion of one banker.

Another stated that increased prices had brought increased bank deposits and a demand for staples. He also noted better employment conditions in his community.

NEMA CODE IS SIGNED BY FRIGIDAIRE CORP.

(Concluded from Page 1, Column 4) comply with the terms of the NRA ever since the Nema code was developed. We are convinced that it will work out as President Roosevelt desires. . . . We believe that every Frigidaire employee to support conscientiously the national recovery administration will give impetus to the recovery program, and will be of the greatest benefit to business in general.

Word was sent at once by Mr. Blechler to all branches of the company throughout the United States with instructions that the terms of the Nema code must be complied with in the field exactly as in the factory organization at Dayton.

Buffalo Firm Announce Faucet Connection

BUFFALO—A new rubber faucet connection designed for use with beer pipe cleaning equipment is being introduced by Sev, Inc. here. The "Fits-All" connection will fit any faucet, the manufacturer claims, the mouth being made of rubber without any metal shell or reinforcement.

The Fits-All is fitted with a nipple graduated to take rubber tubing of from 1/2-in. to 3/4-in. inside diameter.



CLASSIFIED

PAYMENT in advance is required for advertising in this column.

RATES: Fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each.

POSITIONS WANTED

YOUNG executive, ability to attract, highest quality distribution. Dynamic and intensive in operations, exceptional analytical ability with eleven years' refrigeration merchandising experience, hermetic and conventional, domestic and commercial, desires connection as District Sales Manager with reputable manufacturer where productiveness will be appreciated. Recently Eastern District Sales Manager one of largest national manufacturers. Box 583.

INDEPENDENT SERVICE COMPANIES

HALETRIC Thermostat repair service, Ranco, B & B, Two dollars each, one year guarantee, prompt service. Haletric Laboratory. 1793 Lakeview Road, Cleveland, Ohio.

EQUIPMENT FOR SALE

WHOLESALE jobbers of repossessed and new electric refrigerators—large stock always on hand. Shipments to all parts of the United States and foreign countries. Keystone Equipment Corporation, 467 Fourth Avenue, New York, N. Y.

Norge Distributors Become Members Of Honor Group

DETROIT—Three Norge refrigerator distributors have already attained membership in the Ymir Lodge of the Viking Club, special division of Norge Corp.'s official honor organization created to give recognition to those distributors and factory representatives who make their year's quota of sales.

Harten-Knodel Distributing Co. of Cincinnati was the first distributor to gain membership in the special "lodge" when it reported its entire 1933 quota of sales completed on June 23. Brown Electric Co., Oklahoma City distributor, completed its quota on July 19 and became member No. 2. Third to make its year's quota was Columbia Wholesalers, Inc., Baltimore, which reached the quota mark on July 31.



How to save money on Motor, Transmission, Crank, Eccentric and Compressor Shafts: Send us your blue prints, we will send you our prices. Write today. MODERN MACHINE WORKS 156 N. Milwaukee St., Milwaukee, Wis.

McCord REFRIGERATION PRODUCTS

Commercial Evaporators

Domestic Evaporators

Condensers

McCord Ice Trays

Spiral Finned Tubing

Spiral Copper Finned Iron,

Steel or Copper Pipe

McCord
RADIATOR &
MFG. CO.
DETROIT - MICH.

250,000

Now in Use

Zerozone No. 55—List
\$94.50

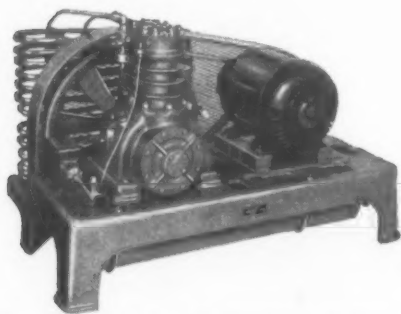


Zerozone No. 66—List
\$119.50

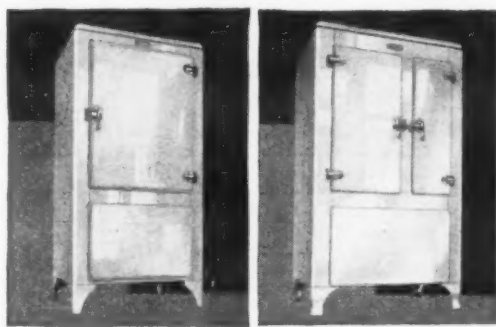


ZEROZONE is the product of 19 years precision manufacturing. 11 years devoted to electric refrigeration.

ZEROZONE is the *lifetime* refrigerator—it *stays sold*—reduces servicing costs—makes the customer a salesman for Zerozone and for you. Every Zerozone is tested 131 times before it leaves the factory.



Water and Air-Cooled Compressors, 27 pounds
I. M. E. to 2000 pounds, A. R. S. E. Standards



Zerozone No. 77—List \$147.50 Zerozone No. 88—List \$179.50

ZEROZONE offers a *complete* household and commercial line that is *priced right* to attract sales.

ZEROZONE is *styled* right—it appeals to the eye equally as much as it appeals for service-giving and economy.



ZEROZONE, Incorporated
939-1011 E. 95th Street, Chicago, Ill.

ZEROZONE offers you a valuable opportunity for profit. Look into Zerozone now! 250,000 Zerozones are already in use.

Distributors—Dealers

Valuable Franchises are open in a few selected territories. Write or wire for full details.

ZEROZONE

Lifetime electric refrigerator

A Century of Progress Supplement

THE NEWSPAPER OF THE INDUSTRY

ELECTRIC

WRITTEN TO BE READ ON ARRIVAL

REFRIGERATION NEWS

Registered U. S. Patent Office

ESTABLISHED 1926. MEMBER AUDIT BUREAU OF CIRCULATIONS. MEMBER ASSOCIATED BUSINESS PAPERS.

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DETROIT, MICHIGAN, AUGUST 16, 1933

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matter Aug. 1, 1927

IN TWO PARTS, PART TWO
TEN CENTS PER COPY

All shined and slicked up to greet a flood of morning visitors, the Norge exhibit (right) in the Electrical Bldg. at A Century of Progress has just passed final inspection.



"See, madam, the Norge refrigerating machine operates so simply that even I can understand it. A Rollator rolls, and there's refrigeration." The cutaway Rollator gets a good workout in the Norge exhibit at A Century of Progress.

Rufus Dawes (below), brother of Gen. "Hell and Maria" Dawes and chief executive of A Century of Progress, opens a World's Fair ceremony with a brief radio speech.



Dawn breaks over Lake Michigan and burnishes a tower of the Sky Ride (right) at A Century of Progress, the 1933 World's Fair at Chicago. Breath-robbed scenes like the one at the right are frequent occurrences at this fairyland of futurism.



Kathryn Crawford, Monogram picture star, tells herself why she should own one of the Norge refrigerators exhibited at the Fair.



Everybody from everywhere may be seen on the Fair's Midway, the amusement center. Above is a typically motley crowd.

During the blistering hot days which have prevailed at the Fair, cold drinks of water from the Norge water-vault (left) have convinced many prospects that they should place an order at once.

Marion Burns (right) recently of Broadway and now Hollywood, samples a frozen dessert of her own making from one of the styled Norge units.



The Marathon Rollator above has been running continuously since 1925. It is exhibited with a 1933 model.

Even the dogs clown to amuse kiddies at the Enchanted Island of A Century of Progress (right).





Of all the exhibits in the Norge section of the Electrical Bldg., none attracts more curiosity than the beer cooler shown above. The Dutch girl wandered over from a near-by exhibit.



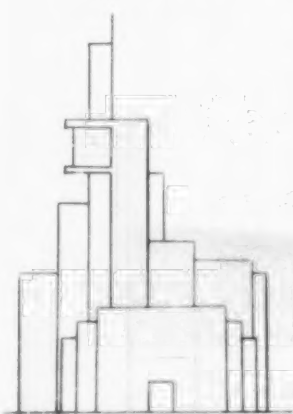
Two tough hombres from the "Days of '49" concession at the Fair battle each other to a standstill over nothing at all. The "dames" are concerned, but not much worried.



Mayor Edward Kelly of Chicago addresses a World's Fair audience from a rostrum erected on Soldier Field, which is considered a part of the grounds.

Here is an unposed picture of a typical group of visitors to the line-up of Norge refrigerator models in the Norge exhibit in the Electrical Bldg. Demonstrators are well-trained, and the thousands of persons who enter the exhibit are told the Rollator story in simple, direct language.

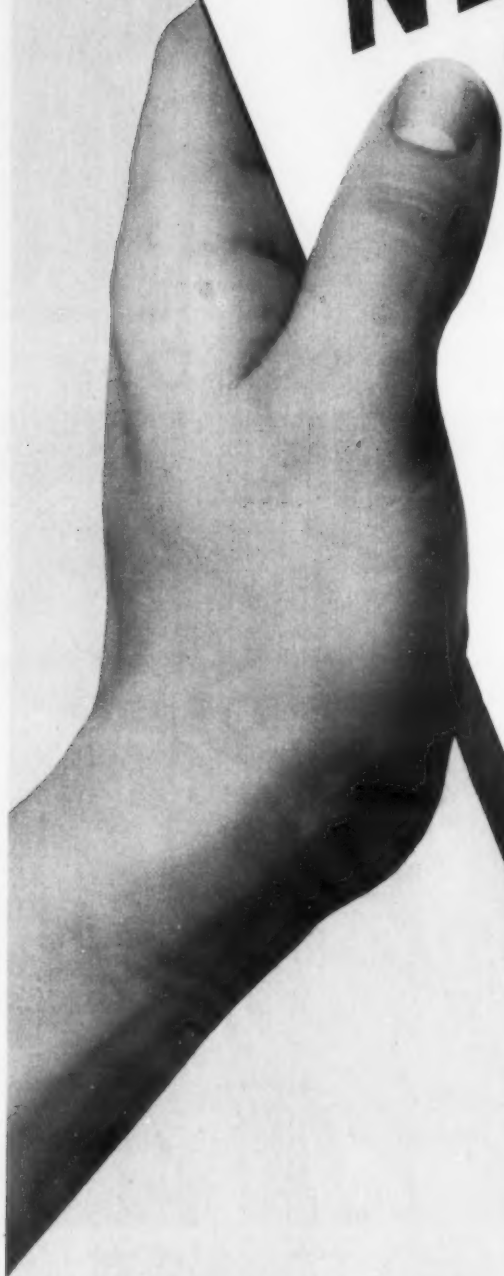
A sensitive touch to the garish coloring of A Century of Progress buildings is lent by the use of concealed and gaseous tube lighting. Outlines are accentuated, shadows contrasted, and majesty cloaks the whole. At the right is one entrance to the Electrical Bldg.



LET THIS

NEW NORGE PROGRAM

MULTIPLY Y



SSS

The National Recovery Program has swung into action. Increased employment and increased wages—thousands of people are releasing a pent-up buying urge that will make a new summer sales record.

Anticipating this opportunity, Norge has planned a new drive that far outsteps any previous plan ever offered Norge dealers—and a most unusual program for salesmen as well—a plan designed specially to bring you extra summer and fall business, a plan that fits the old dealer and the new dealer equally well.

Augmented Dealer Helps

Norge cooperative dealer efforts have been increased and augmented in an elaborate way... new and finer sales-promotion literature; interesting, helpful instruction manuals for dealers and salesmen; De luxe window displays, win-

dow transfers and posters; counter folders, counter cards, recipe books, mailing pieces—no end of attractive "silent helpers" for the promotion of sales.

Full Page Announcements in prominent National Publications, and cooperative advertising in dealer's local papers, will feature exclusive Norge advantages, Norge outstanding beauty

utility and economy, and the fact that prices are still the lowest in Norge history.

Norge is a Non-Seasonal Product

Used every day in the year... sold every day in the year. Long ago, electric refrigerators ceased to be a hot weather utility. Millions

NORGE

Rollator



refrigeration



YOUR *SUMMER & FALL* PROFITS

of homes now know the convenience and advantage of operating an electric refrigerator the year around. Norge sales are no longer seasonal. Norge dealers and salesmen no longer recognize seasonal slumps. Norge dealer profits never take a vacation.

A Superior Line Generous Profit

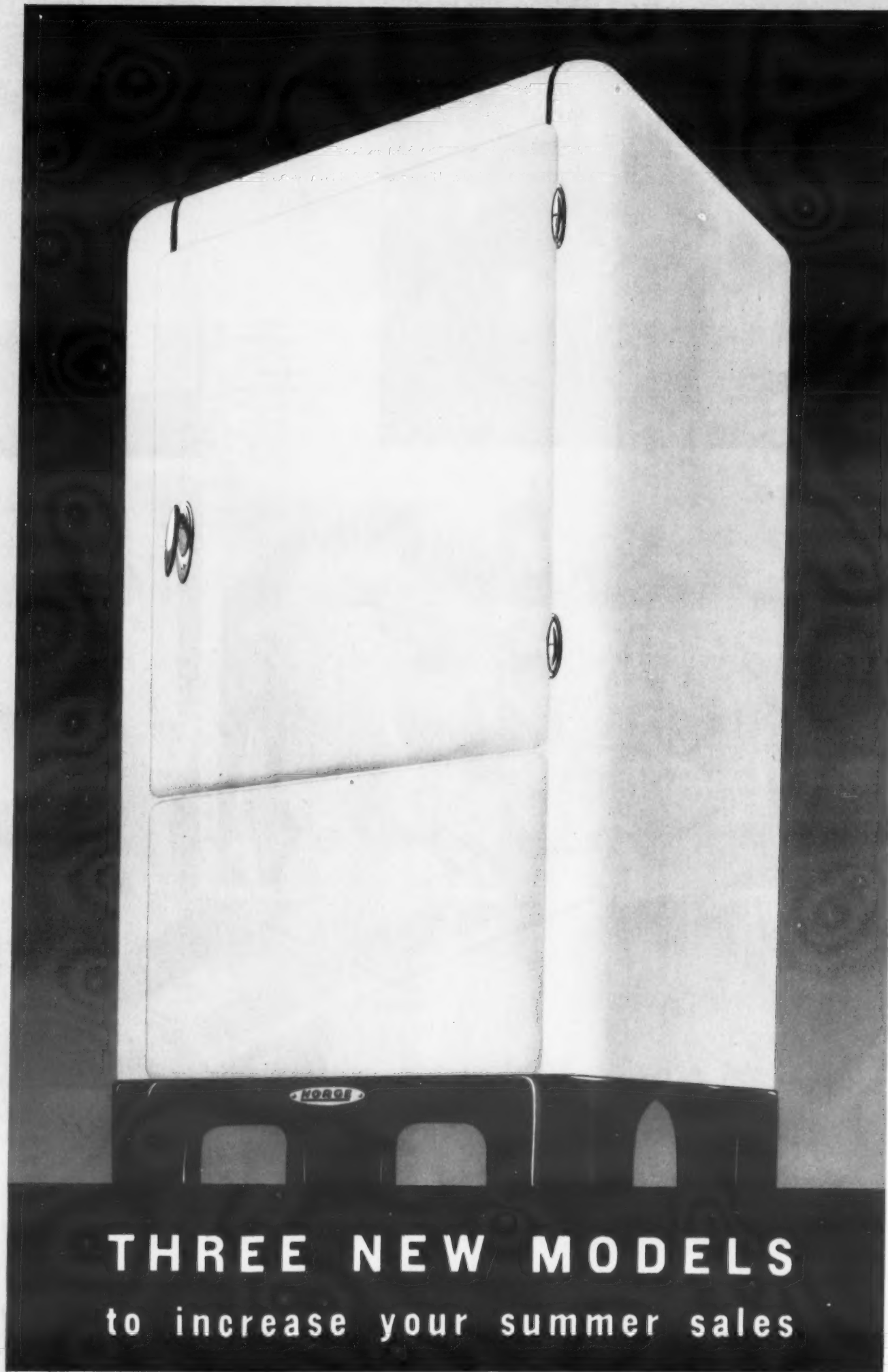
Rollator Refrigeration has enjoyed steadily-mounting sales for over eight years. Norge broke the sales records of all other refrigerators, then broke its own record. Its widespread consumer acceptance, its advanced beauty of design, the superior performance and dependability of Rollator mechanism, its attractive price, keep old dealers selling Norge year after year, bring new dealers into the Norge family continually. Norge is a *short line* of package merchandise, free from service problems, and offering generous dealer profits.

Present Norge Dealers should send at once for the new program and complete new promotion equipment.

Special Offer to New Dealers. Wire, phone or write at once. Let us show you a "new deal" that's a real profit opportunity.

NORGE CORPORATION

DIVISION OF BORG-WARNER CORPORATION
658 East Woodbridge Street, Detroit, Michigan



THREE NEW MODELS
to increase your summer sales

The Only Genuine ROLLATOR

The simplest refrigerating mechanism known...only three moving parts. Here they are... blade, shaft, roller. Assembled, the roller slowly revolves and there is ice... a proven product that has won the confidence and preference of hundreds of thousands of users.

NEW MODEL AP-44

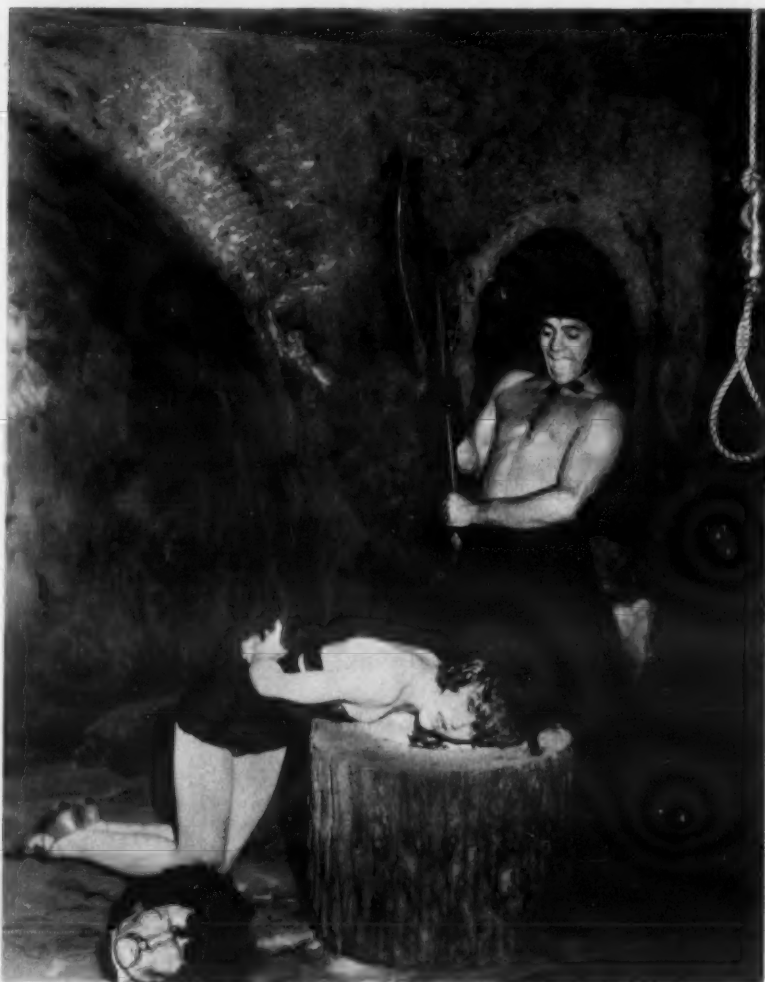
For cottage, small home or compact apartment. A low-cost Norge with extra-powered Rollator, and Norge excellence of style and finish.

NEW MODEL D-5

Has the capacity to keep an abundance of food for a small family. Norge simple, classic style, and the same powerful Rollator as larger models.

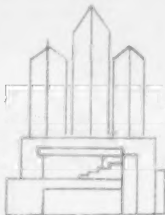
NEW MODEL DP-66

A good size for the average family. Has standard Norge refinements and finish... and the almost everlasting Norge Rollator mechanism.



Death takes a holiday in this near-execution in the torture chamber to be found in the Belgian Village at the Fair.

Here is a cross-cut cutaway view of the Norge Rollator at the Borg-Warner exhibition in the Transportation Bldg. at the Fair in Chicago.



A No. 1 eye-catcher is this working model of the Norge Rollator mechanism which is to be found under glass in Norge's show.



Picked scholars from Chicago high schools are attending regular classes in the Hall of Science. (Above left)

The Fair is a good place to see many varieties of people from a great variety of places. (Above right)

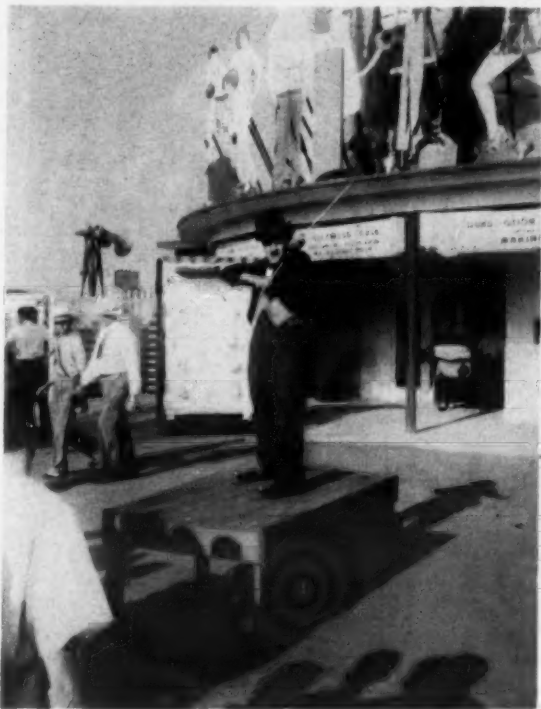


Above is the Mechanical Fountain in the Borg-Warner exhibit in the Transportation Bldg. at Chicago's 1933 World's Fair. (Note the square gears on the fountain—unbelievable, but true.) This Mechanical Fountain is next to Borg-Warner's Norge exhibit.



In the Norge exhibit in the Electrical Bldg. may be found the Economaide washing machine, a Norge product.

Charlie Chaplin's double appears at the Hollywood concession at A Century of Progress.



From the Norge distributor in Detroit came this special truck to the Fair. It stands in front of "Design for Living," the John Moore house, which is Norge-equipped.



Buffalo Bill's Wild West has been recreated (right) at the southern tip of the Fair, where scenes like this are enacted for movie cameras.



This aerial snapshot of the Fair grounds was taken from a Goodyear blimp.

Ralph Guldahl (left), runner-up in the 1933 U. S. Open golf tourney, drives into the Fair's aquatic golf course.



Kathryn Crawford, (right) featured film player, finds the Norge interior light enhancing and useful.

